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PLANNING DOCUMENT FOR
A NEW FACILITY

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Preface

The intent of this presentation is to provide a comprehensive report of the Vocational Education system that is provided by the Butte Vocational Technical Center. This is to serve as a guideline for proceeding with the planning and developing of a functional and flexible facility, wherein individual educational and training objectives can be efficiently and effectively served.

In keeping with the concept of a functional and flexible facility, we must bear in mind we must be able to accept and provide for needs for new emerging skills in the work force, new manufacturing processes, and innovative techniques. For these reasons it is necessary to assure an understanding between all persons involved in the planning so that the best elements of their expertise may be merged in the planning of this facility.

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1 INTRODUCTION

INTRODUCTION

This study was prepared in response to the request of the State Superintendent of Public Instruction and the State Director/Administrator of Vocational Education that School District No. 1, Butte, Montana submit to the State Board of Public Instruction for review and consideration, June, 1978, program documentation and construction plans for a new Vo-Tech Center in Butte.

This report assesses all pertinent factors which must be considered in planning and budgeting for a new major facility. The conclusion and supporting data are based on the best information now available, adjusted to reflect anticipated future development and trend.

With a new Center, Butte will be better able to provide quality Vocational Education to the citizens of Montana and realize the specific benefits as stated by Dr. Larry Key:

1. Provide program expansion capabilities to better serve the vocational needs of the Butte service area.

2. Provide better quality vocational instructors due to better planned and equipped vocational labs.

3. Provide a major construction project for Butte that will help effect unemployment problems and should positively affect industrial expansion at Butte's Industrial Park.

4. Provide a possible increase in Butte Vo-Tech budget due to program expansion capabilities.

5. Provide new classroom expansion for high school students at the present Vo-Tech facility.

II BACKGROUND INFORMATION

BACKGROUND INFORMATION

Butte has had space problems with Vocational Education programs for the best part of forty years. From 1939 and until 1969 the secondary vocational programs were conducted in several locations: namely, the old Cleveland Reform School, the United State Naval Reserve Armory, and Butte High School.

As early as 1961, two years before the Vocational Education Act of 1963 which exerted a national commitment to Vocational Education, Butte started a campaign to build a Vocational School. It was not until 1966 that Butte realized financial help through an E.D.A. Grant of $424,500.00. These government funds were augmented by a $596,000.00 bond issue approved by the taxpayers of Silver Bow County for the construction of the proposed school.

It is interesting to note that this was one of the first three grants of this nature ever awarded. Two other grants were awarded in Georgia and Michigan. Usually such financing for construction was made under the Federal Vocational Act of '63, but funds for Montana under the Act were expended in communities other than Butte. Construction started in 1967 and the project was completed in November, 1968. Because of the nature of construction funds, the Butte Vo-Tech Center was to serve both secondary and post-secondary Vocational Education students.

In July, 1968, the Butte Vocational-Technical Center was designated by Montana's Board of Education as the States' third area Vocational Technical Center along with Helena and Missoula.

The Butte Post-Secondary Vo-Tech Center opened its doors September, 1969 containing 61,157 square feet. Of that amount, 59,892 square feet is usable floor space.

About 45% of the almost 60,000 square feet of usable floor area is used by post-secondary students and 55% of the floor space used by secondary students. By coincidence the E.D.A. Grant was 42% and local bond 58% of the total construction funds.

During any one day, around 300 post-secondary vocational students attend classes for six hours and about 1100 secondary students attend one hour and a few of these attend two hour class sessions.

Overall student enrollment, both secondary and post-secondary, has remained stable, indicating the building has been operating at capacity for the last five years.

After only one year of operation, it was evident once again that space was a problem and this necessitated conducting the Licensed Practical Nursing Program classroom training in the United States Naval Reserve Armory, and clinical work in the Silver Bow Community and St. James Hospitals along with several nursing homes.

Apparently the space problem for Vocational Education is not peculiar to Butte. Montana has had five Post-secondary Vocational Technical Centers constructed since 1969 located in Billings, Butte, Great Falls, Helena, and Missoula. For over a decade there hasn't been a year without construction for Vocational Education going on in at least one of these Centers. Vo-Tech Center construction has been primarily financed on a matching basis of local funds with State and Federal funds.

The intent when the five Centers were designated was to eventually provide a post-secondary vo-tech center building for each of the five vo-tech centers. Helena constructed their present Vo-Tech Center using local, State, and Federal matching fund basis. Missoula built their Vo-Tech Center with State and local funds. Great Falls also built their Vo-Tech Center with State and local funds. Butte provided a post-secondary Vo-Tech Center primarily with direct grant of Federal funds and local funds. Billings is in the process of building a Vo-Tech Center with State, Federal, and local funds.

Since 1969, the Butte Vocational-Technical Center has reserved only $100,000 for site acquisition and planning while the other centers have received millions of dollars for their planning, site acquisition and construction.

I would like to point out that the Butte Vocational-Technical Center has not received any state money for building purposes. Our building was constructed with a local bond issue and federal funds which we received through the E.D.A. This is the only situation of this type that exists in the State of Montana.

III PROGRAMS OF INSTRUCTION

Programs of Instruction

Since 1969 the number of Post-Secondary programs offered at the Butte Center has remained much the same with the addition or deletion of only a few of the programs originally offered.

Some programs dropped were Computer Programmer and Computer Operator by order of the State Department of Public Instruction. These programs are only offered at the Missoula Center. Other programs that were once in existence at the Center were the Off-Highway Vehicle, Coal Miner Safety and Miner Entry.

Program expansion has been limited by the size of the physical plant and consequently budgeting restraints have seriously hampered our ability to serve students needing vocational education.

In an effort to attain a high degree of continuity and compatibility an in-depth study of only the eleven regular on-going programs was made for a period of five years starting with Fiscal Year 1974 and extending through April of Fiscal Year 1978. Enrollment and placement were the prime targets in each program for each year of the five year period.

The programs are:

Accounting
Automotive Mechanics Technology
Business Machines
Civil Engineering Technology
Drafting Technology
Electrical Technology
Health (LPN)
Machine Tool Operation Technology
Secretarial
  Clerk-Typist
  Steno-Secretary
  Legal Secretary
  Medical Secretary
Small Engine and Equipment Mechanic
Welding Technology

Some of these programs are also offered at other Centers. (See chart).

COMPARISON OF BUTTE PROGRAMS
WITH OTHER VO-TECHS

	PROGRAM	BUTTE	BILLINGS	GREAT FALLS	HELENA	MISSOULA
1.	Accounting	X	X	X	X	X
2.	Key Punch	X		X	X	X
3.	Secretarial	X	X	X	X	X
4.	Auto Mechanics	X	X		X	
5.	Drafting	X	X			
6.	Civil Engr. Tech.	X				
7.	Electrical Tech.	X				
8.	Machine Shop	X			X	
9.	Small Engines	X				X
10.	Welding	X			X	X
11.	L P N	X	X	X	X	X

The eleven program areas operate on a 6 hour a day basis, 8:30 a.m. to 3:00 p.m. Two of these programs have a double session. One session starts at 7:30 a.m. and goes until 2:00 p.m. and the other session starts at 12:00 noon and continues until 6:00 p.m. These programs are Welding and Auto Mechanics.

The Butte Vocational Technical Center carries out a sound Vocational Education philosophy and objectives in all program areas.

Enrollment and Placement

Total accumulative enrollment of the eleven programs for the last five years has remained fairly stable ranging from a low of 523 in 1974 to a high of 557 in 1977 for an average of 537 per year.

Overall placement for the four year period 74 through 77 has averaged 71%. Enrollment for 1978 is not included since this report precedes the submission of the yearly placement report.

On a program basis, enrollment and placement for a five year average are as follows.

	Enrollment Average/Yr.	FTE Ave./Yr.	Placement Average/Yr.
Accounting	32	26	73%
Auto Mechanics	73	64	62%
Business Machines	37	26	68%
Civil Engineering	19	17	83%
Drafting	25	21	65%
Electrical Technology	37	38	68%
Health (LPN)	78	65	90%
Machine Shop	21	20	72%
Secretarial			
Clerk-Typist	41	28	55%
Steno-Secretary	40	26	71%
Legal Secretary	20	15	76%
Medical Secretary	18	13	74%
Small Engine	25	23	71%
Welding	71	52	69%

Also during the last five year period the Butte Center has served 445 veterans, 455 work-study participants and has had 375 students receive basic grants.

Employment Needs Assessment

The purpose of this inquiry was to collect manpower information from businesses, industries, governmental and professional employers. Information collected will consider manpower needs for specified occupations and/or occupational areas for the State of Montana. Manpower information collected will be used for vocational technical education/training program planning.

The centers and Office of Public Instruction are committed to serving the citizens of Montana by attempting to satisfy expressed employer and student vocational technical training/education needs.

Before employer and student needs can be satisfied, they must first be identified. It became the responsibility of center personnel to identify and forward an inquiry to employers.

Twelve hundred forty-one inquiries were mailed to employers in the Anaconda Butte Labor Market Area which includes Beaverhead, Deer Lodge, Granite, Madison, Powell and Silver Bow counties. A 50% return of inquires contributed to the collected manpower data, which is compiled in row form.

Employment Needs Assessment

Review of Results

The following results of the survey indicate a positive attitude of Montana employers in their outlook on hiring vo-tech center students.

1. A need is indicated for training both female and males in most occupations.
2. Vo-Tech Centers rank high in all occupations as a source of applicants for unfilled positions.
3. A large percentage of respondents also indicated that Montanas Post-Secondary Vo-Tech Centers would be considered as a source of qualified applicants.
4. The majority of respondents indicated that private training programs were not available for training individuals for their organization.
5. A large percentage of the respondents indicated a projected need for trainees in the occupations surveyed.

See chart - Employment Needs Assessment.

Employment Needs Assessment Chart

PROGRAM	No. of inquires mailed	No. of inquires returned	No. of usable returned inquires	Average number of individuals employed in the above occupations.		Replacements usually required annually as a result of turn over.	Anticipated change in the number employed for the next 3 years.									Are educated/trained individuals difficult to find for this occupation?		Source of qualified applicants (Not ranked)									Will Montana's postsecondary vocational-technical centers be considered as a source of qualified applicants?		% of Vo-Tech students to be considered.	Are training programs sponsored by and available from your organization?		Number trained annually	Does there appear to be a need for individuals trained/educated for this occupation?		% Employer projected need for trainees.
							Next Year			Second Year			Third Year																						
				Female	Male		Number Increase	Number Decrease	No Change	Number Increase	Number Decrease	No Change	Number Increase	Number Decrease	No Change	Yes	No	Apprenticeship training	Colleges and Universities	Community Colleges	Vocational-Technical Centers	Private training Programs	Private Employment Services	State Job Services	Walk in Applicants	Other	Yes	No		Yes	No		Yes	No	
Accounting	203	89	87	81.5	5.5	19.3	3	0	46	1	0	49	1	0	48	22	20	10	9	9	16	12	9	19	21	12	39	4	91%	6	36	2	28	13	68%
Auto Mechanics	133	72	69	6	361	48	10	0	46	14	0	34	12	0	34	33	17	21	6	5	22	11	9	19	29	6	41	7	85%	12	35	19	41	9	82%
Business Machines	203	84	81	21	12	8	1	0	24	1	0	24	0	0	25	4	9	1	2	1	5	3	2	7	6	4	11	4	73%	3	16	2	10	9	53%
Civil Engineering Tech.	121	66	63	1	108	21	4	0	42	9	0	38	0	0	37	21	13	4	18	6	13	9	6	9	12	13	27	11	71%	7	36	3	31	8	79%
Drafting	36	20	20	5.5	37	15	6	0	12	4	0	12	1	0	14	8	5	4	9	2	11	3	3	8	7	3	15	0	100%	3	12	2	11	3	78%
Electrical Technology	82	50	46	10	197	21	11	0	29	7	0	28	6	0	30	19	9	13	8	5	5	12	5	10	14	7	22	8	73%	9	17	5	22	6	78%
Health (LPN)	85	66	65	297	16	119	14	1	37	7	3	39	4	0	41	15	22	2	9	1	13	6	2	10	17	3	34	2	94%	1	41	0	23	16	59%
Machine Shop	27	20	19	1	122	16.5	2	1	11	3	0	10	2	0	11	7	4	9	2	2	9	4	4	6	11	2	11	0	100%	5	7	5	9	3	75%
Secretarial	203	90	88	84	4	23.8	11	0	42	3	0	43	2	0	43	16	24	7	9	8	18	7	9	22	22	12	38	6	86%	7	37	20	27	17	61%
Clerk-Typist																																			
Steno-Secretary																																			
Legal Secretary																																			
Medical Secretary																																			
Small Engine	53	21	21	1	19	6	2	1	10	2	0	9	2	0	9	8	4	4	1	1	6	4	2	2	4	2	12	0	100%	4	8	1.5	9	3	75%
Welding	95	43	43	4	236	29	6	0	29	7	4	25	7	0	25	11	14	10	3	4	12	7	6	7	12	8	27	2	93%	7	24	8	23	5	82%
Total	1241	621	602	515	1117.5	326.6	70	3	328	58	7	311	43	0	317	164	141	85	76	44	130	78	57	119	155	72	277	44	86%	64	269	67.5	234	92	72%

CURRENT AND FUTURE JOB NEEDS*

OE CODE/DOT	CURRENT EMPLOYMENT	EXPANSION AND REPLACEMENT NEEDS					PROJECTED SUPPLY FROM ALL SOURCES[b]									
		78	79	80	81	82	Voc. Ed. 78	Other Sector 78	Voc. Ed. 79	Other Sector 79	Voc. Ed. 80	Other Sector 80	Voc. Ed. 81	Other Sector 81	Voc. Ed. 82	Other Sector 82
07.0000 Health Occupations																
07.0302 Practical Nurse	1300	120	120	120	120	120	180	50	180	50	180	50	178	50	179	50
14.0000 Office Occupations																
14.0000 Accounting & Comp.	8440	510	510	510	510	510	155	92	155	92	155	92	155	92	155	92
14.0201 Business Data Processing	350	45	45	45	45	45	108	47	108	47	108	47	108	47	108	47
14.0300 General Office Clerical	3950	465	465	465	465	465	450	47	450	47	450	47	450	47	450	47
14.0700 Steno, Secretarial & Related Occupations	9055	1380	1380	1380	1380	1380	590	345	590	345	590	345	590	345	590	345
14.0900 Typing	2790	240	240	240	240	240	388	170	388	170	388	170	388	170	388	170
14.9900 Other-Post. Sec. Bus.; Reprographics & Para Legal	N/A	N/A	N/A	N/A	N/A	N/A	10	2	10	2	23	2	35	2	35	2
16.0106 Civil Technician	N/A	N/A	N/A	N/A	N/A	N/A	13	9	13	10	13	10	13	10	13	10
16.0107 Electrical Technician	290	15	15	15	15	15	19	4	19	4	19	4	19	5	19	5
17.0302 Mechanics - Auto	7770	180	180	180	180	180	163	130	163	130	163	130	163	130	163	130
17.1002 Electricity	1770	55	55	55	55	55	10	120	10	120	10	120	12	120	12	120
17.1300 Drafting	650	30	30	30	30	30	114	4	114	4	114	4	114	4	114	4
17.2302 Machine Shop	740	20	20	20	20	20	70	0	70	0	70	0	70	0	70	0
17.2306 Welding and Cutting	1560	60	60	60	60	60	174	2	174	2	174	2	174	2	174	2
17.3100 Small Engine Repair	N/A	90	90	90	90	90	85	6	85	6	85	6	85	6	85	6

*Montana Five Year Plan for Vocational Education
Prepared by - Office of Public Instruction, October, 1977

LABOR MARKET INFORMATION

Unemployment has been a persistent problem in the Butte area for some time. Currently unemployment for the Anaconda-Butte labor market area is at 8.1%. This compares with 6.9% for the state as a whole. Individuals seeking employment who possess saleable skills stand a far better chance of employment than those that do not. The Butte Vocational-Technical Center is and has made a signigicant contribution to the development of such skills. During the past four (4) years 71% of the graduates have been placed in occupations for which they were trained.

The eleven (11) programs offered by the center represent occupational areas of which there is significant demand in the labor market. The following information from the U.S. Department of Labors' Occupational Outlook Handbook pertains to the employment outlook for those programs offered by the center:

ACCOUNTING

Accounting employment is expected to expand very rapidly because of such factors as the greater use of accounting information in business management; complex and changing tax systems; the growth and size and number of business operations required to provide financial reports to stock holders; and the increasing use of accounting services by small business organizations. As a result, opportunities for accountants are expected to be excellent. Demand for post-secondary trained accountants will be stronger than the demand for people without this background because of the growing complexity of business requirements.

ELECTRICAL TECHNOLOGY

Employment of electricians is expected to increase moderately throughout the decade. Most openings will occur from the need to replace journeymen who retire, die, or transfer to other fields. Retirements and deaths alone will result in several thousand job openings annually. In addition, a few thousand job openings are expected each year because of the growing volume of electrical and electronic equipment in use in industry.

Employment opportunities for electrical engineers and technicians are expected to increase very rapidly. An increased demand for electrical equipment to automatically control production processes, using such items as computers and sensing devices, is expected to be among the major factors contributing to this growth. The anticipated growing demand for electrical and electronic consumer goods also is expected to create many job openings.

CIVIL ENGINEERING TECHNOLOGY

The outlook in civil engineering - one of the largest and oldest branches in the profession - is for continued growth throughout the decade. The expanding employment opportunities for civil engineers and technicians will result from the growing needs for housing, industrial building, and highway transportation systems, created by an increasing population and an expanding economy.

KEY-PUNCH OPERATOR

The use of electronic data processing equipment will continue to increase very rapidly as the economy grows. Computers are being adapted to new uses almost daily, and as they perform more varied tasks, many more business firms will be utilizing them. Although the size of the staff required to operate a computer installation maybe reduced somewhat as new types of equipment are developed, the total number of computer and auxilliary operators is expected to increase very rapidly.

OFFICE OCCUPATIONS

Thousands of job openings for office machine operators are expected each year. As modern business' continue to expand in size and complexity, the increase paperwork will lead to a rapid expansion in the employment of secretaries and other office workers. The increasing use of dictating, duplicating, and other office machines will undoubtedly continue.

AUTOMOTIVE MECHANICS TECHNOLOGY

Employment of automobile mechanics is expected to increase moderately throughout the decade. Employment is expected to increase because of the expansion of the driving age population, consumer purchasing power, and multi-car ownership will create a demand for more automobiles. Employment of mechanics also is expected to grow because a greater number of automobiles will be equipped with exhaust emmission control devices, air conditioning, and other features that increase maintenance requirements.

DRAFTING TECHNOLOGY

Employment opportunities for drafters are expected to be favorable. Prospects will be best for those having post-high school drafting training. Employment of drafters is expected to rise drastically as a result of the increasing complex design, problems of modern products, and processes. In addition, as engineering and scientific occupations continue to grow, more drafters will be needed as supporting personnel.

MACHINE TOOL TECHNOLOGY

The number of machine tool operators is expected to show little change throughout the decade, despite the anticipated expansion of metal-working activities. However, tens of thousands of workers will be hired to replace experienced machine tool operators who transfer to other jobs, retire, or die. The growing use of numerically controlled machine tools will limit the employment growth of some machine workers, particularly semi-skilled operators. On the other hand, the more sophisticated operations of these machine tools will require operators to have greater skill and knowledge of machine operations.

SMALL ENGINE AND EQUIPMENT MECHANIC

Throughout the nation one booming industry is recreation, and this is where the small engine mechanic plays such a vital role. The rapidly expanding market in motorcycles, snowmobiles, marine engines, golf carts, track vehicles, etc. dictates a steadily increasing demand for service persons.

WELDING TECHNOLOGY

Employment of welders is expected to increase rapidly as a result of the generally favorable long-run outlook for metal-working industries and the wider use of the welding process. Many more welders will be needed for maintenance and repair work in the growing metal-working industries. The number of welders in production work is expected to increase in plants manufacturing sheet-metal products, boilers, storage tanks, ships, and other structural-metal products. The construction industry will need an increasing number of welders as the use of welded steel structure expands.

PRACTICAL NURSING

Licensed practical nurses are expected to be in strong demand in the years ahead. Employment is expected to continue to rise very rapidly throughout the decade and a large number of new jobs will have to be filled each year as health facilities continue to expand. In addition, many workers will be needed annually to replace licensed practical nurses who retire, or stop working for other reasons. Opportunities for part-time work are expected to be plentiful.

Pre-Enrollment Lists

The waiting lists at the Center have been kept at a minimum in most programs because of the open enrollment policy. For the last nine years, there have been waiting lists in Practical Nurses, Auto Mechanics, Drafting, Key Punch Operator, Electrical Technology, and Welding after the fall classes were filled. The program with a continually long waiting list each quarter has been the L.P.N. program. As the Center continues in operation, with excellent job placement, attracting students from throughout the state, all programs are and will continue to operate at capacity thus increasing the problem of serving the number of prospective students on the waiting lists. The open-entry system, although an asset, will not keep pace with demand in courses such as business and office which previously have not had waiting lists. In 1977-1978, the enrollment stabilized and many courses which have not had waiting lists indicate that a waiting list will be needed. If popularity in programs and excellent placement continues, then waiting lists will become a reality in all courses.

Student Enrollment Patterns

Although the majority of the students over the last ten years have been from the seven county area, an increasing number of students from throughout Montana have enrolled or are seeking to enroll at the Center. This is indicative of the changing public attitude toward vocational education and its growing acceptance. Quality programs offered by the Center are attracting these students from throughout the State as the Center adheres to its philosophy and objectives.

Educational Philosophy

The Butte Vocational-Technical Center exists for the purpose of guiding and aiding in the development of all individuals who rely upon the Center in their quest for an educational objective that will satisfy their economic, social and personal needs.

The underlying philosophy of the staff of the Center rests on the dignity and worth of the individual in his or her effort to live and advance through life. We feel it is a right of the individual to obtain the education and training that enables the student to become a contributing member of society by providing him with the competence to enter a field compatible with his capabilities and interests thus resulting in a meaningful and rewarding career.

The Butte Vocational-Technical Center will fulfill its obligation by providing a balanced program utilizing the resources and talents of its personnel, giving the student the opportunity to acquire the knowledge and understanding necessary to develop the skills essential to an advanced technological society.

PROGRAMS
OF
INSTRUCTION

BOOKKEEPER-ACCOUNTANT

A. Program Description

Essential to all businesses is the person who keeps the accurate information on profits, losses and assets and who has to make day-to-day and long rangr policy decisions. This is the accountant, a person who plays a major role in aiding management arrive at decisions. With automation the business field is rapidly changing and the accountant is becoming more and more valuable to the employer.

The graduate of the course will be qualified to collect, analyze and post data, pay and receive money, operate machines and prepare reports including state and federal.

B. Program Objectives

The major objective of the Bookkeeping-Accountant Program is to provide the student with proper training in order to obtain the skills necessary for employment in the bookkeeping-accounting field.

Another objective is to assist all of the other areas in the office occupations department as well as any other area in the Center that may have some need for accounting in their particular course.

C. Instructional Content

Accounting I
Accounting II
Accounting III
Accounting IV
Accounting V
Accounting VI
Accounting VII
Accounting VIII
Accounting IX
Business Machines & Math
Business Machines & Math II
Business Machines & Math III
General Business
Typing I
Typing II
Business English
Business Letter Writing
Office Simulation
Office Procedures
Word Power
Filing
Record Keeping
Data Processing
Keypunch
Composer Typing-Optional
Magnetic Card Typing-Optional
Memory Unit Typing-Optional

AUTOMOTIVE MECHANICS TECHNOLOGY

A. Program Description

Our automotive program is a challenge to anyone. Modern engineering technology and manufacturing have transformed the automobile from a relatively elementary system to a complex mechanical and electronic marvel. This course requires a sound educational background for the mechanic who must diagnose malfunctions, operate test equipment and correct problems throughout the complete automotive system. Specialization has entered theis field, and the person who wishes may concentrate on specific areas of interest.

B. Program Objectives

1. To develop skill and knowledge acceptable for job entry into automotive or related fields.
2. The student will learn and apply safe work habits.
3. To develop attitudes required for job entry and advancement.
4. To create an environment in the shop that closly relates to industrial automotive shop practices.

C. Instructional Content

Engines
Power Train Components
Chassis and Front End
Automotive Services, Maintenance & Repair
Electrical Equipment
Fuel Systems
Emission Control and Air Conditioning
Service Station Auto Technician
Emission Control and Air Conditioning Lab
Power Train Components Lab
Chassis and Front End Lab
Electrical Equipment Lab
Fuel Systems Lab
Engines Lab
Automotive Repair Service Lab
Automotive Service Station Lab
Chassis Hardware, Adjustment & Alignment
Cost Estimating
Independent Study
First Aid
Industrial Communications
Metrics
Welding
Shop Skills and Maintenance
Shop Management
Industrial Safety

KEYPUNCH

A. Program Description

For fast, efficient operation in the modern data center, one person is the key to the smooth flow of business - the key punch operator. The key punch operator is mainly employed by firms handling a large volume of record keeping and other paperwork, such as banks, insurance firms, government agencies, manufacturing companies and wholesale and retail businesses. The operator uses machines similar to a typewriter that punch holes in tabulating cards. Each hole represents a specific item of information that can be identified when fed into a computer. When all business matters are stored in the computer, the information is immediately available to the firm.

B. Program Goals

To make the student aware of the physical structure of the standard data processing card.

To have the students aware of the keypunch machines, parts and function.

To have the students learn the physical components of the program drum.

To demonstrate correct finger placement for accurate keypunch skill development.

To make the students aware of the function of the card layouts.

To explain, demonstrate and provide practical experience on the verifier.

To make the student develop basic keypunch skills by completing the first 10 assignments.

C. Objectives

The student will be able to describe the structure of the standard data processing card.

The student will be able to recognize data processing terms and explain their meaning.

The students will be able to read and interpret cards.

The students will be able to name the parts of the keypunch machine.

The student will be able to create his programs.

The student will use correct finger placement on the keypunch board.

The student will draw up a layout card with each new application.

The student will operate the verifier.

D. Instructional Content

Business Machines & Math
Business English
Office Procedures
Filing
Record Keeping
Key Punch I
Data Processing
Computer Operation
Data Station
Accounting I-Optional
General Business-Optional
Office Stimulation-Optional
Word Power-Optional
Composer Typing-Optional
Magnetic Card Typing-Optional
Memory Unit Typing-Optional

CIVIL ENGINEERING TECHNOLOGY

A. Program Description

Accurate planning is an indispensable preliminary to any type of construction project. To satisfy the needs of the construction industry, the civil engineering technician must be capable of performing office services, preparing construction estimates, designs and drawings and also perform field operations such as surveys, projects inspections and construction management.

This is a course designed to give the maximum in practical on-site work experience. The aim of our program is to provide students with the necessary skills and competencies required for employment in industry and become a certified civil engineering technician.

B. Program Objectives

The Civil Engineering Technology Program has as its objective the training of people to fill those jobs in the civil engineering, land surveying, water treatment and conservation and mineral and fossil fuel extractive industries that require a technical background and basic skills but not a college degree. As such, the technician will work in direct support of the professional staff at intermediate and para-professional positions between the semi-skilled and professional levels of employment.

Not only must the student be technically competenet for entry into the job market, he should also have a self-motivation of professional responsibility to himself and towards his work. This can be fostered in each individual by contact with the instructor, other classmates, personnel employed in the field, and participation in student professional organizations.

Students are also encouraged to take the examination in Civil Engineering Technology which is sponsored by the Institute for Certification of Engineering Technician which organization is sponsored by the National Society of Professional Engineers.

C. Instructional Content

Plane Surveying I
Plane Surveying II
Civil Engineering Drafting I
Civil Engineering Drafting II
Triangulation
Land Surveying
Highway Design I
Highway Design II
Engineering Science I
Engineering Science II
Strength of Materials
Plane Surveying Lab I
Plane Surveying Lab II

Civil Engineering Drafting Lab I
Civil Engineering Drafting Lab II
Triangulation Lab
Land Surveying Lab
Highway Design Lab I
Highway Design Lab II
Soil Technology
Concrete Technology
Computer Programming
Construction Accounting I
Construction Accounting II
Construction Accounting III
Statics
Construction Estimating
Waterwork Hydraulics
Waste Water Plant Operation
Independent Study
Fluid Power
Technical Report Preparation

DRAFTING TECHNOLOGY

A. Program Description

The Drafting Technology program prepares the students for work in industry as drafters. The student is able to prepare clear, complete and accurate working drawings similar to those used in industry for engineering or manufacturing purposes.

The drafter utilizes knowledge of various machines, engineering practices, mathematics, building materials, and physical sciences to complete the drawings. Drafters also propose drawings for the location of highways, power lines, utilities, structural drawings and electrical and electronic drawings.

B. Program Objectives

1. To introduce students to the field of drafting and the potential for employment in this field.

2. To introduce students to some of the responsibilities and work expectations of draftsmen in industry.

3. To give students practical "on the board" drafting experience and drafting training by doing the following:

    a. By introducing the students to the various types, the use of, and the care of drafting equipment.

    b. By teaching the principles of lettering and lettering types used in the drafting field.

    c. By teaching the student of the various line types and the use of various lines in drafting.

    d. By teaching the principles of projection and the various types of projections used in the drafting field.

    e. By teaching the students how to make technical drawings by both freehand and mechanical methods.

    f. By teaching students the various fields of drafting and giving them the opportunity to do many drawings in these various drafting areas.

4. To offer subjects related to the field of drafting that are beneficial and helpful for the students.

5. To evaluate student progress continuously and to inform the student of his progress in the program.

6. Upon a students' completion of the program, to find employment for the student in the drafting field.

7. To get feed-back from former students and employers concerning suggestions for the drafting program.

8. To work with the drafting advisory committee, employers and potential employers and solicit their suggestions for keeping the drafting program current with industrial needs.

9. To work with the school administration and other programs in the Butte Vo-Tech so that a sound, solid educational institution may be maintained.

C. Instructional Content

Mechanical Drawing I
Mechanical Drawing II
Assembly Drawing and Technical Illustrations
Surveying and Civil Drafting
Descriptive Geometry and Surface Developments
Welding and Piping Drafting
Architectural Drafting
Structural Drafting
Electrical Drafting
Electronic Drafting
Mechanical Drawing I Lab
Mechanical Drawing II Lab
Assembly Drawing and Technical Illustrations Lab
Surveying and Civil Drafting Lab
Descriptive Geometry and Surface Developments Lab
Welding and Piping Drafting Lab
Architectural Drafting Lab
Structural Drafting Lab
Drafting Mathematics
Drafting Algebra and Geometry
Drafting Trigonometry
Cost Estimating
Independent Study
Fluid Power
Technical Report Preparation
Industrial Communications

ELECTRICAL TECHNOLOGY

A. Program Description

With the advent of the space age, advances in electricity and electronic systems took one giant step forward.

With this in mind our objective for students is to develop basic manipulative skills, safety judgment, and proper work habits for initial employment. The tools, equipment and materials used are comparable to those used in industry.

The program covers basic electricity and electronics, transistors, industrial electricity and test equipment, television monitoring, closed circuit communications systems, and industrial television & digital logic techniques.

This course is designed to make the student an industrial electrician and give a good start towards becoming an electronics service person.

B. Program Objectives

Instruction in the Electrical Technology program at the Butte Vo-Tech Center is designed to give the students a thorough understanding of electricity and its electrical concepts and their relationship to electronics. To attemp to teach one without an understanding of the other creates areas in a curriculum or work situation that would leave a void in the education of a student. With present systems one connot be explained or understood without referral to the other.

Our instruction takes into consideration the job market in this area, and one of the major employers is the Anaconda Company.

Many of our people are employed by the Anaconda Company. To deprive them of electronic training would severely limit their capability to service equipment which has electronic solid state controlling devices. This is one reason they need some degree of electronic training associated with electrical training. Closed circuit television and maintenance also should be taught for the purpose of monitoring electrical apparatus, controls, motor driven conveyor belts, etc.

Our intent has been and will continue to be to keep current with industry to try to give the students the training and qualifications necessary to fill the increasingly more complex jobs that exist in the electrical field.

C. Instructional Content

Commercial Wiring
Direct Current
Alternating Current
Test Equipment
Electrical Systems & Devices
Industrial Systems
Electric Motors & Transformers
Industrial Television & Digital Logic Techniques
Electrical Drafting
Commercial Wiring Lab
Direct Current Lab
Alternating Current Lab
Test Equipment Lab
Electrical Systems & Devices Lab
Electric Motors & Transformers Lab
Industrial Television & Digital Logic Techniques Lab
Electronic Drafting
Electrical Mathematics
Cost Estimating
Independent Study
Industrial Communications
Metrics
Shop Management
Industrial Safety

PRACTICAL NURSING

A. Program Description

The practical nurse is a vital segment of the medical team. The practical nursing profession provides opportunity for service, satisfaction and advancement. It is one large step up the medical ladder.

The practical nurse works closely with and under the supervision of a registered nurse. The student nurse assumes a good deal of responsibility for routine patient care. Students receive a variety of in-hospital clinical experience including pediatrics, geriatrics, obstetrics, medical and surgical nursing.

To be licensed the student nurse must pass the Montana Practical Nursing certification test.

Employment opportunities abound in hospitals, nursing homes, doctor's offices, industry, public health agencies and private practice.

B. Program Objectives

The objectives of the practical nursing curriculum in accordance with the overall objectives and philosophy of the Butte Vocational Technical Center includes:

1. The preparation of the graduate to perform for compensation the practice of practical nursing: caring for the ill, injured or the infirm; to function effectively under the direction of a registered nurse or a licensed physician; and not requiring the specialized skill, judgement and knowlege required in professional nursing.

2. To prepare graduates to function as assistants to professional nurses in close relationships in giving nursing care in more complex nursing situations.

3. To prepare the graduate to qualify as candidates for the licensure examination for practical nursing, administered by the state board of nursing.

4. To provide qualified persons in the paramedical field to help meet the health needs of the community and state.

The graduate of the program shall be prepared to:

1. Give nursing care under the supervision of the registered nurse or licensed physician to patients in simple nursing situations.

2. Assist the registered nurse in complex nursing situation under her supervision and directions.

3. Participate in the planning, implementation and evaluation of nursing care to patients.

4. Observe, record and report overt and covert behavior.

5. Perform procedures deemed appropriate for practical nursing.

6. Demonstrate awareness of interpersonal relationships with patients, families and personnel.

7. Assist in the rehabilitation of patients and be aware of health services appropriate to the situation.

MACHINE TOOL OPERATION TECHNOLOGY

A. Program Description

The machinist is the person skilled in the principle of setting up and operating machinery and machine tools. The machinist using cold metal shapes the metal into a precision part by using machine and hand tools. A highly skilled machinist may specialize in tool and die making. The machinist has to be able to work from shop drawings and blueprints as well as written specifications, use measuring tools and mathematical formulas in calculating operations necessary to machine a certain product. Equipment used during the training is on metric and standard lathes, milling machine, shaper, drill press, surface grinder and band saw.

B. Program Objectives

To develop ability to perform machining procedures competently.

1. recognize hand tools used by machinist
2. develop ability to sharpen hand tools
3. develop the ability to care for and maintain hand tools in proper condition

To develop ability to follow and use safety rules and practices.

1. general first aid
2. accident prevention
3. hazards in the machine shop

To develop understanding of the social and economic

1. ability to buy and own
2. fair place in society as taxpaying citizen

To develop understanding of the correlation between prevocational and remedial training and the shop program.

1. understanding that the course is just a beginning in machine shop
2. student must be ready and willing to learn after job has been attained

C. Instructional Content

Lathe and Units
Drill Press, Boring and Grinding
Milling Machines
Acme and Square Threading
Tapering
Gear Cutting

Cutting and Conversions
Multiple Threading
Lathe and Units Lab
Drill Press, Boring and Grinding Lab
Milling Machine Lab
Acme and Square Threading Lab
Tapering Lab
Gear Cutting Lab
Cutting and Conversions Lab
Multiple Threading Lab
Blueprint
Metallurgy
Machine Math II
Machine Math I
Independent Study
Fluid Power
First Aid
Metrics
Welding
Shop Skills & Maintenance

OFFICE EDUCATION

CLERICAL/SECRETARIAL SERVICES

A. Program Description

The clerical/secretarial services program prepares students for the following major areas of employment:

Secretary
Stenographer
Medical Secretary
Legal Secretary
Receptionist
Clerk Typist
File Clerk
Office Duplication Clerk
Medical Typist/Transcriptionist
Legal Typist/Transcriptionist

Instruction is conducted on an individualized basis, with students progressing at their own rate toward their own occupational objective. The program is integrated with the Bookkeeping/Accounting and Data Processing programs, together with instruction in related fields. Students work under the supervision of the instructional staff at all times.

B. Program Objectives

Suited to individual needs, program objectives include:

1. Development of a high degree of skill in the use of numerous types of electric typewriters to complete satisfactorily all typing tasks of a business office.

2. Development of communication skills including writing, speaking, reading and listening.

3. Development of ability to take dictation accurately and transcribe it into mailable copy.

4. Development of a business-like personality/appearance.

5. Ability to use common office machines, including photocopiers, duplicating machines, transcribers, binderies, etc.

6. Understanding of good interpersonal relationships.

7. A knowledge of modern office systems and procedures.

C. Instructional Content

- Basic Typing
- Production Typing
- Magnetic Card Typing
- Memory Unit Typing
- Composer Typing
- Executive Typewriter (Proportional Spacing)
- Legal & Medical Typing
- Legal & Medical Dictaphone Transcription
- Stenotype Machine Shorthand
- Gregg Shorthand
- Medical & Legal Terminology
- Offset & Mimeograph Duplication
- Telephone Etiquette & Switchboard Training
- Business Letter Writing
- Office Procedures & Simulation
- Spirit Duplication
- Stencil Duplication
- Thermofax (copying, transparencies, master units)
- Xerox Operation
- Filing: Alphabetical, Subject, Numerical, Geographic
- Business English & Spelling
- Job Interviews, Applications (includes closed-circuit TV training)
- Safety Procedures
- Transcription Machines
- Pegboard Accounting
- Record Keeping

D. Methods of Instruction

Individual and group demonstrations of techniques, equipment, etc., are conducted regularly by instructors.

Programmed materials are augmented by chalkboard, video tapes, cassette tapes, and other reinforcement materials.

Students progress on an individual basis toward achieving their occupational goals. As each skill development is attained, students advance to higher levels of developmental instruction.

E. Relationship to Other Programs

Office Education-Clerical/Secretarial Services will provide a service function for the other components of the Office Education Department. Students are under the supervision of a full-time instructional staff.

SMALL ENGINE AND EQUIPMENT
MECHANIC PROGRAM

A. Program Description

Throughout the nation one booming industry is recreation and the equipment associated with it.

Students in the Small Engine and Equipment Mechanic Program are involved in trouble shooting and repairing two and four cycle small gasoline engines and the equipment they are related to. They are accustomed to power lawn mowers, snow machines, chain saws, garden tractors, motorcycles, outboards and other equipment that enters the shop. The student can troubleshoot the cause of the problem by means of using his knowledge of the equipment, test instruments, hand-tools and a manual when available. The student uses hand-tools to dismantle and examine parts; replace or repair parts, then assembling them, make final adjustments, then to test them and make sure the particular piece of equipment is ready to be used.

B. Program Objectives

The objective of this program is to give the student sufficient working knowledge of the many different types and kinds of small engines. The small engine repairman will be trained in manipulative and diagnostic skills. Repairing small engines and auxiliary equipment which they power will be supplemented by other related instruction enabling him to interpret parts manuals, order supplies and parts, inventory, estimate costs and maintain shop records.

C. Instructional Content

Lawn Mowers and Chainsaws-Engine and Components
Snow Machine-Engine and Components
Recreation Equipment-Engine and Components
Motorcycle and Trailbike Engine and Components
Lawnmowers and Chainsaws Lab
Snow Machine Lab
Recreation Equipment Lab
Motorcycle and Trailbike Lab
Bookkeeping
Cost Estimating
First Aid
Industrial Communications
Metrics
Welding
Shop Skills and Maintenance

WELDING TECHNOLOGY

A. Program Description

The demand for welders throughout the country is ever increasing.

Mechanical ability and real interest in welding are essential to successfully complete this program. The welder must work from blueprints, drawings or other specifications and plan and layout the work for fabricating parts or components. Cutting, grinding and filling operations and the use of arc, oxyacetylene, semi-automatic arc, and tungsten inert gas welding equipment is provided in the training. A person with good work habits and the ability can go to work. Wages vary according to locations, union locals and jobs.

The welding program shall be divided into four general categories:

1. Fundamentals and basic skills of oxyacetylene welding and cutting.
2. Arc welding practices and procedures with 6010 and 7018 in all positions.
3. Basic skills and Fundamentals of M.I.G. (metal inert gas welding).
4. Basic skills and Fundamentals of T.I.G. (tungsten inert gas welding).

B. Program Objectives

1. To acquire the necessary skill to become a proficient welder.
2. To develop good work habits.
3. To develop good safety habits.
4. To emphasize the need for skilled welders.
5. To instruct in proper welding terminology and techniques.
6. To instruct in proper selection of electrodes by number and color codes.
7. To instruct in the proper preparation of joints prior to welding.
8. To instruct in the identification of metals.
9. To emphasize good quality welding.
10. To understand labor and management problems.

C. Instructional Content

Oxyacetylene Welding
Shielded Metallic Arc
Welding-7018-6010
Metallic Inert Gas Arc Welding (MIG)
Tungsten Inert Gas Arc Welding (Heli-Arc)
Oxyacetylene Welding Lab
Shielded Metallic Arc
Welding 7018-6010 Lab
Metallic Inert Gas Arc Welding (MIG) Lab
Tungsten Inert Gas Arc Welding (Heli-Arc) Lab
Layout
Independent Study
First Aid
Metrics
Shop Skills & Maintenance

STUDENT
PERSONNEL
SERVICES

COUNSELING AND GUIDANCE SERVICES

A. Program Description

Counseling is an integral part of education at the Butte Vocational-Technical Center. Counselors are available to provide assistance in occupational choice, career development, decision making, and personal adjustment problems to individuals prior to entry, while attending, and after leaving the Center.

B. Program Objectives

The counseling staff of Student Personnel Services, under the supervision of the Assistant Director for Instructional Services and in cooperation with appropriate Butte Vo-Tech Center and district staff, and state supervisory staff, shall assume the following duties and responsibilities:

1. Will be responsible for all appropriate activities performed by the Admissions Office to include:
    a. Development and implementation of admissions procedures.
    b. Initiation of activities resulting from student application.
    c. The supervision of registration activities.
    d. Coordinate recruitment activities.
2. Will be responsible for organization, establishment and maintenance of information pertaining to all student records to include:
    a. Individual student files including an application, a student information sheet, a transcript, a completion of program or withdrawal form, issuing of certificate of completion and other appropriate materials.
    b. Statistical reports emanating from student enrollments and their dissemination to appropriate agencies.
    c. Consult with Adult Education Supervisor to develop a permanent record system for Adult and Continuing Education and Adult Basic Education programs.
3. Will cooperate with the Financial Aid Officer in the administration of all student financial assistance programs. The administration of these programs will fall within appropriate guidelines. Current student aid programs include:
    a. College Work Study Program.
    b. Basic Educational Opportunity Grant Program.
    c. Supplemental Educational Opportunity Grant Program.
    d. Scholarships.

4. Will be responsible for the supervision of all counseling and/or supportive student services activities.

5. Will be responsible for the compilation and dissemination of publications directly relating to Student Services to include:

    a. School catalog.

    b. Program brochures.

    c. School calendar.

    d. Student handbook.

6. Will be responsible for coordinating student related activities with appropriate assistance agencies.

7. Will be responsible for other duties that may be assigned by the Director of the Butte Vocational-Technical Center.

THE FINANCIAL AID OFFICE

\. Program Description

The Financial Aid Officer administers and coordinates all forms of financial aid available to the students of the Butte Vocational-Technical Center. The Financial Aid Office is a part of Student Supportive Services and the Financial Aid Officer is responsible to the center administration.

. Program Objectives

1. The Financial Aid Officer shall be the financial counselor for student applicants and their parents regarding the various aid available and shall supervise any information program specifically designed to educate students and the public.

2. The Financial Aid Office is responsible for the administration of each of the major student assistance programs of grants, loans, and work-study.

3. The Financial Aid Officer serves as the Chairman of the Financial Aid Committee.

4. The Financial Aid Officer shall check on the continued progress of students receiving financial aid, and shall maintain complete and up-to-date records on each program which he administers.

5. The Financial Aid Officer shall be responsible to determine the most efficient management of the funds available and shall determine the impact of the financial aid program on the students and evaluate the aid programs of the center encouraging and developing the various financial aid funds both within and outside the Center.

6. The Financial Aid Office is also involved with the administrative supervision, decision-making, and distribution of financial aid and scholarships for Indian student and armed forces veterans. This involves detailed working relations and responsibilities with the Bureau of Indian Affairs and the Veteran's Administration.

7. It is important that all pertinent areas be researched by the Financial Aid Office to determine that funds have been used effectively during the past academic year and as a basis for the request for the coming year.

PLACEMENT AND FOLLOW-UP

A. Program Description

The Butte Vocational-Technical Center cooperates closely with management, labor and the Montana Employment Security Commission to assist students in job placement. A placement officer at the Center assists each student in getting a job.

The Center is employment-oriented and feels that when a student has the necessary skills, regardless of time enrolled, the student should be employed, and every effort is made to place the student.

Follow-up studies are continually conducted to determine educational and placement needs.

B. Program Objectives

1. Organize, implement and control an active placement office.
    a. By putting to use all of the objective listed, with positive results a must.

2. Develop an effective placement service for all students.
    a. By contacting employers.
    b. By centering one's attention on student's related fields.
    c. By working with teachers to develop needed instruction and classes.

3. Involve and utilize teaching staff in the placement of students.
    a. By having instructors refer job openings to the placement office.
    b. By having instructors explain the role of the placement office.
    c. By utilizing the different area advisory councils.
    d. By having field trips conducted by instructors.

4. Develop and maintain a close liaison with employers.
    a. Sending letters of introduction to all area businesses with course curriculum available.
    b. Personal contact with all area employers.
    c. To help organize and carry out open house days for the community.

5. Conduct surveys and gather local area employment data.
    a. Using the survey put out by the Butte Local Development Corporation.
    b. Collect data while contacting employers.
    c. Working with the Montana State Employment Service.

6. Implement an effective method for gathering placement information.
    a. By feed back from letters sent to prospective employers and businesses.
    b. Working closely with the Montana State Employment office.
    c. By personal contact throughout the immediate and surrounding areas.

7. Assist and develop an effective Advisory Council in all training areas.
    a. Advise and assist all departments.
    b. Meet periodically with department members to advise and assist in placement requirements.

8. Develop and assist local unions and employers in organizing an effective on-going apprentice program.
    a. Contact local union business agents to see if an interest is there.
    b. Discuss with employers what courses or material should be taught that would be most beneficial.
    c. Help locate qualified instructors.

9. Develop policies and procedures to computerize a student job placement and follow-up system.
    a. Work with the administration, personnel services and computer staff to develop a computerized follow-up system.
    b. Make use of the earlier follow-up system until the new system is operable.

10. Inform the community and surrounding areas of the placement services available.
    a. To be accomplished by personal contact whenever possible.
    b. By sending letters of introduction and a list of programs offered.
    c. By placing students from the Vo-Tech Center in these areas.

11. Develop an effective placement and follow-up system in Special Education.
    a. By personal contact throughout the community and surrounding areas.
    b. By working closely with the special education department, teachers, and the coordinator of Special Education.
    c. By placing students from the Vo-Tech Center in these areas.

12. Develop and maintain Center enrollment reports and statistics.

    a. To be accomplished by working closely with student services.

13. Implement "employability plans" for each student.

    a. By working with instructors.
    b. By working with the students to determine what type of work they are seeking or hope to secure.
    c. Determine if openings are available and if these openings are not available then in what locale one may be successful.

14. Develop and maintain a close liasion with all State, local and Federal agencies.

    a. Working closely with the State Employment Service.
    b. Keeping in contact with local and area labor unions.
    c. Keeping in contact with U.S. Government Agencies.
    d. Working closely with personnel in the Merit System.

15. Develop on-the-job (OJT) sites with local employers.

    a. Discuss the positive aspects of this program to interested or prospective employers.
    b. Check with other Centers on their procedures in setting up an OJT program.

16. Develop a cooperative placement program with the other four area vocational centers.

    a. Talk with the Directors and Placement Specialists from the other four centers.
    b. Exchange job openings with other Centers if unable to fill these positions from within one's own school.

RESOURCE CENTER

The Resource Center is attempting to provide direction by improvising programs and services to meet the needs of the administration, staff, and students, as well as following accepted standards and practices of library operation.

Until January of 1977, the Resource Center has not been under the supervision of a full-time librarian. The present librarian has determined priorities for reorganization of the Resource Center to better serve the school. Attempts are being made to first utilize existing materials and supplies while following standard practice of library operation.

Additional reorganization and implementation of services are planned for the following areas:

1. Establish an updated periodical collection.

2. Establish a useful vertical file.

3. Develop programs using existing materials and facilities to provide services in graphic production such as:

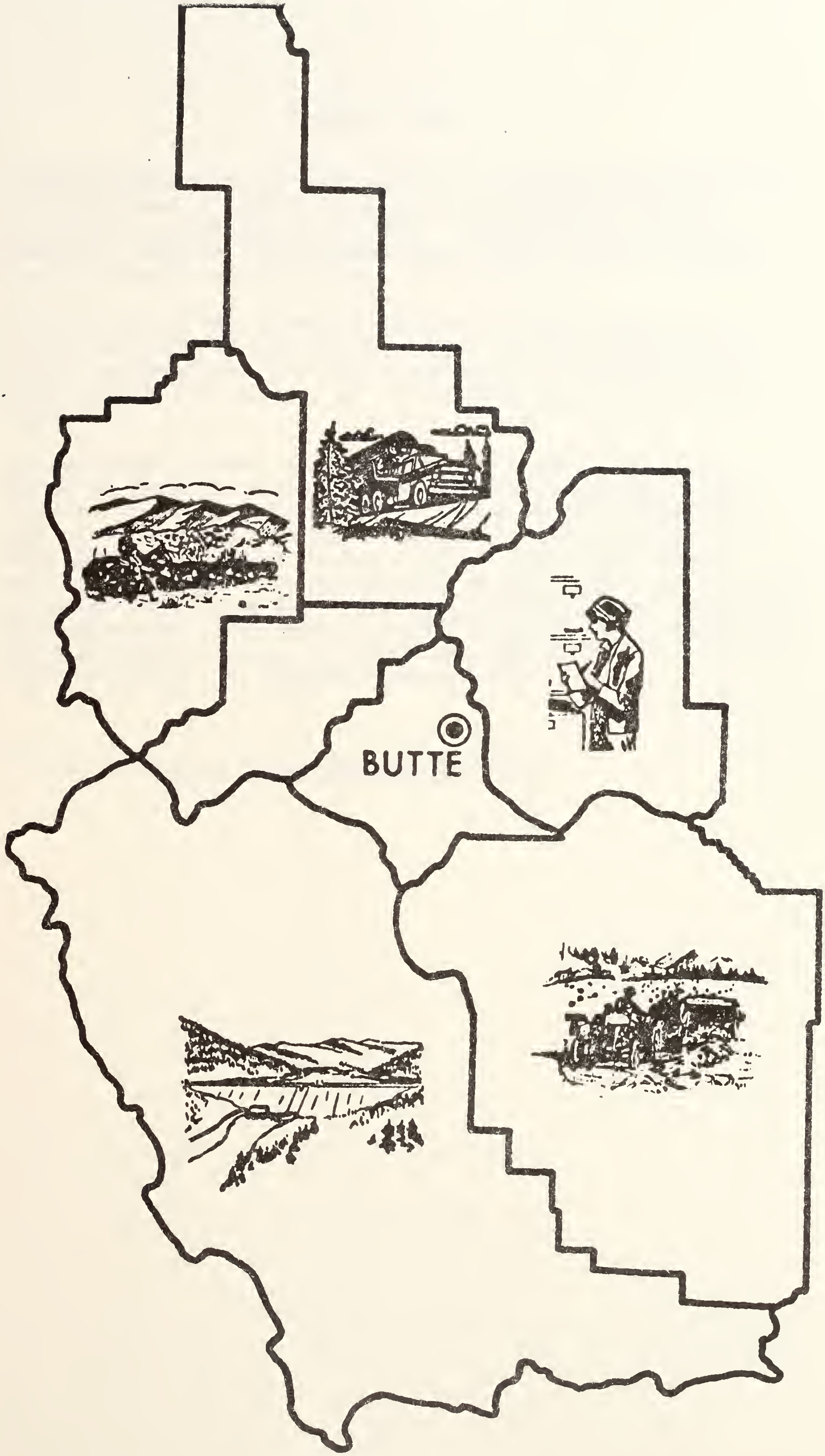
    a. Transparencies
    b. Signs
    c. Simple photography
    d. Materials for bulletin boards
    e. Duplication services
    f. Printing and binding of instructor-made educational aids
    g. Duplication of tapes

4. Develop additional miscellaneous services such as:

    a. Ordering, receiving and distributing audio-visual materials
    b. Ordering preview materials
    c. Preparing bibliographies
    d. Securing permission to reproduce copyrighted material
    e. Special research for the administration and staff

5. Develop programs to promote additional uses of the Resource Center and audio-visual materials, such as adapting study carrels to record listening stations.

IV GEOGRAPHIC AREA


BUTTE

Geographic Area

Extreme southwestern, Montana counties surrounding Butte-Silver Bow form the sphere of Butte's influence: economically, socially, culturally, and soon, educationally. The Butte-Silver Bow area covers the counties of Beaverhead, Deer Lodge, Granite, Jefferson, Madison, Powell, and Silver Bow.

The land area of this seven county area is 16,309 square miles, or roughly one-ninth of the total land area of the entire State's, 145,736 square miles. This area, incidentally, contains Montana's largest county, Beaverhead, and the two smallest, Deer Lodge and Silver Bow.

The Continental Divide, formed by the main range of the Rocky Mountains, separates water drainage of the area into the Missouri River and the Columbia River Basin. Rugged Mountain ranges bound the territory to the West and the South; the county boundaries which define the area on the East, follow closely the eastern brim of the Rockies. The northern tip of the region is parallel to Big Salmon Lake in the Bob Marshall Wilderness Area in Powell County; the southern most just south of Garfield Mountain in the Beaverhead National Forest, a distance of just under 300 miles. The area is 190 miles wide at its furthest east-west point.

*(Taken from Survey of Need for Voc. Ed., 1967)

V SOCIO - ECONOMIC FACTORS

Socio-Economic Factors

Introduction

Historically speaking, there has been a definite and distinct trend in the demographic and economic development of the Butte - Silver Bow area.

A decline in mining activity in relation to employment needs, after 1920, caused a population decline right up to the late 1960's. This slow decline has been assisted by new outmigration and can be associated to a general lack of employment opportunities.

Considerable stabilization of total population has occured since 1970 and it appears that some growth is inevitable for the Butte - Silver Bow area's future. There has been a turnabout in population growth since 1970 representing a growth of about 1400 persons.

Age Composition

The age composition of residents of Silver Bow County shows a higher than average median age over the State average. Because of the tendency for young people to migrate out for employment, education and training opportunities, an older population exists in Silver Bow County. (The opportunities available for the younger individuals would be greatly enhanced through the developments proposed for the new Vo-Tech center.) The following tables describe the age distribution for Silver Bow County and Montana.

TABLE 1

AGE DISTRIBUTION 1970

Age	Silver Bow County	Montana
under 20 years	38.8%	40.1%
20 - 40 years	20.4%	24.1%
40 - 60 years	28.9%	25.9%
65 and over	11.9%	9.9%
Median Age	30.2%	27.1%

Sources: U.S. Bureau of the Census, Dept. of Commerce, "General Social and Economic Characteristics," 1970.

Migration

Population levels and the rates of migration for Silver Bow County have remained rather stable for the period 1970 to 1976. Prior to 1970 the Silver Bow County area was plagued with outmigration mainly because of the strong dependency upon mining activity and the steady decline of that industries employment needs. The conclusion that can be drawn from U.S. Census Bureau Statistics, about migration, is that outmigration rates have declined considerably from the periods prior to 1970 as compared to the period of the seventies. The rate of outmigration for the period 1960 - 1970 was 1.67% per year and the rate per year from 1970 - 1973 was .03% per year according to the census bureau. This sharp decline in the level of outmigration shows that people are inclined not to move out of Butte possibly because of the apparent increase in employment and economic opportunities.

Population and Employment Trends

The 1970 population declined to 41,981 and the employment picture changed significantly. The services sector emerged as a major employer, with 3,867 employees and 27% of the total employment. The services sector includes hospitals and health care, educational activities, personal services, entertainment and recreation, business and repair services, nonprofit and religious associations, and professionals such as lawyers, accountants and engineers. Mining activity declined to about 2,970 employees, about 20% of total employment. Retail employment was 2,785, which made up 19% of total employment.

The 1975 population rose to 43,000 and the employment base became even more diversified. Mining still remains a basic industry but now there is more emphasis in employment in the services and retailing throughout the trade area. Services and retailing combined provide about 46% of the total employment in Silver Bow County, which is almost half of the total employment base. This trend points out the diversity, stability and potential growth of the Butte area.

Population levels have remained rather stable for the period 1970-76.

Employment conditions are an important indicator of overall economic stability. Butte - Silver Bow employment patterns have been relatively stable during the 1970's. The relationship of overall county employment and population levels are presented in the following table.

TABLE 2

EMPLOYMENT AND POPULATION

Year	Total Employment	Population
1970	15,716	41,981
1971	15,057	42,900
1972	15,890	42,100
1973	16,288	43,300
1974	17,197	43,100
1975	16,263	43,300
1976	15,833	41,100
1977	15,618	N/A

Sources: Montana Dept. of Labor and Industry, Employment Security Division, Montana Employment and Labor Force, 1971 - 1978.

Employment stability in the 1970's added to population and migration stability are positive indicators that Butte - Silver Bow is not on the decline but is stable and diversifying.

The Butte - Anaconda Labor Market Area

The Butte - Anaconda Labor Market Area (LMA) is made up of six counties; Powell, Granite, Deer Lodge, Silver Bow, Beaverhead and Madison. The unemployment rate for 1977 in the area was 7.7% which is a considerable improvement over the 10.1% of 1976 for the LMA. The labor force in the area consists of 34,800 persons for 1977, down from 35,300 in 1976. Those employed were 32,100 persons for 1977 and 31,800 for 1976. The Butte - Anaconda LMA is the third largest in the state in terms of employment. The entire Butte - Anaconda LMA has a common economic base with mining and manufacturing being the main industries. There is also significant agriculture and trade activity in the area and a broad range of employment opportunities.

The Labor Market Area designations and statistical information are supplied by the State Dept. of Labor and Industry, Employment Security Division, Helena, Mt.

Overview of Economic Base

Traditionally the economy of Butte - Silver Bow has been largely dependent on the copper mining industry. Butte has been very vulnerable to fluctuations in mining activity. Market instability of copper and decreasing labor demands along with increased mechanization have all contributed to the economic instability of the area.

In the most recent years since 1970 there has been a concentrated effort to diversify and expand Butte's economic base. An active program for development has been underway since the Butte Local Development corporation (BLDC) was established in 1969. The BLDC, a product of the Model Cities program, created the Industrial Park of Butte. The Industrial Park is an area of about 350 acres and is located five miles south of the Central Business District. There are now about ten establishments including the Port of Butte which is the first inland containerized freight station in the nation. The Port is strategically located to handle warehousing and distribution of all types of merchandise. This distribution center is ideally geared for economical handling and shipping to sales points throughout Montana, the Pacific Northwest and all over the country.

Mining is an important basic employer with about 2200 employees in the area. Mining will continue to be a dominant force in the economic base of the community. Butte's non-mining sectors are many and varied. The headquarters for the Montana Power Company with about 550 employees, St. James Community Hospital with 490 employees, Safeway Stores, Silver Bow General Hospital, Stauffer Chemical and Mountain Bell Telephone add diversity and stability to the community. The Montana College of Mineral Science and Technology is a dynamic force in the Butte area with over 1000 students. There has just been completed, in the spring of 1978, a new library and there is a new physical education complex presently under construction.

The Butte - Silver Bow area has an excellent transportation system. Air transportation is available at the Bert Mooney Airport by Northwest Orient and Western Airlines and a charter service. Amtrak passenger service provides rail passage east and west. Rail freight lines service is provided by four railroads: Burlington Northern, Milwaukee Road, Union Pacific and the Butte - Anaconda and Pacific, Greyhound and Intermountain bus lines serve the area continually. Butte is in an ideal location as a transportation hub. Interstate 90 and 15 intersect at Butte and provide east-west and north-south access.

Regional Trade Function

Butte serves as a trade center for all or parts of ten countries with an approximate population total of 160,000 people. Butte's location as the hub of this regional trade area has been established for many years. Butte as a large commercial center serves the three smaller cities of Anaconda, Deer Lodge, and Dillon and a large rural population. Retail trade, business and personal services, and medical and health services continue to provide for the needs of the people in southwestern Montana. In 1970, trade and service industries surpassed the mining industry for the first time in total number of employees. The regional trade function has significantly contributed to this important diversification of the local economy.

The past several years have shown increases in retail sales which is a positive indicator of the health of the community. The retail sector is showing signs of growth and change which is very descriptive of the condition of the Butte economy. Following is a list of retail sales for 1974-1976, which indicates steady growth in retail sales.

TABLE 3

RETAIL SALES BY STORE GROUP 1974,75,76

SILVER BOW COUNTY

Year	Total Retail Sales
1974	129,524,000
1975	137,913,000
1976	156,047,000

Source: Sales and Marketing Management Magazine, Survey of Buying Power, July 1975, 1976, 1977.

MHD and Associated Activities

In 1976, the U.S. Energy Research and Development Agency started construction on the Magnetohydrodynamics, Component Development and Integration Facility (MHD-CDIF). The MHD-CDIF, the newest member to the Butte Industrial Park family is a 50 MW coal-fired power plant. This is a 33 million dollar energy project which is now under the direct supervision of the U.S. Dept. of Energy (DOE), and will mean big things in terms of Butte's economy. During the summer of 1978 there will be about 200 construction workers at the MHD CDIF site. The Montana Energy Research and Development Institue (MERDI) has been established in Butte to do the work associated with the proper operating of the MHD facility. Now MERDI is doing additional energy research and development on its 10 million dollar budget and employs about 175 people of a professional nature. Another energy related organization has been established in Butte, NCAT, the National Center for Appropriate Technology, operates on a 3.4 million dollar budget and is making positive impacts in research and information handling.

There is a proposed phase II MHD test facility on the drawing boards which could very easily be sited in the Butte-Anaconda area. The Engineering Test Facility (TF), a 500 million dollar project is scheduled to be constructed somewhere in Montana within the next few years, and the Butte area is a likely candidate. The ETF will require approximately 1000-12000 construction workers and 300 to 400 persons to operate the facility. The plant will need 200 to 300 acres and will take about 4 or 5 years to build. There has been no official decision on the siting of the ETF and studies are currently going on to come up with the best possible locations. There is considerable active support for the facility within the community.

Butte's Historic District

Butte's uptown Central Business District (CBD) is presently listed as a national historic landmark. The great historic significance has been established since Butte's days of a booming copper camp and the center of Montana's political and economic power. The CBD contains

commercial structures of great architectural quality and is the most historical central business district in the state. As is pointed out by Professor John N. DeHaas, Butte contains some of the states finest architectural examples of the late nineteenth and early twentieth centuries. There are 50 buildings that DeHaas has identified as being of primary significance and another 45 buildings of secondary significance.

The Historic landmark area is presently being studied and hopes for redevelopment, and rejuvenation of uptown Butte are spreading throughout the community. A re-birth is on the horizon in Butte's future as tax incentives, grants and matching funds all make it very inviting to economic developers. The economic rehabilitation of buildings in uptown Butte is not only possible but it is becoming a reality. Recently a developer has proposed to buy the Leggatt Hotel and spend over a million dollars in rehabilitation expenses. This is only one sign of the potential that exists in uptown economic development.

New businesses are being solicited to locate themselves in uptown Butte and an overall redevelopment program is in the air. Local planners, businessmen, developers and government officials are working on a proposal that would be both feasable and acceptable by the people of the community.

Economic Highlights

The Butte-Anaconda Labor Market area is in much better shape now, than it was even 2 years ago, in terms of new business formations. 1977 saw a total of 314 new businesses enter the six county area, which is an increase of 24% over the 254 firms in 1976. All six counties experienced improvements in new businesses. The construction industry also experienced expansion in 1977 as the demand for residential and new business space increased. Home building experienced a very good year and the construction of the MHD Facility in Butte played a significant role in the overall economic stimulus.

One would assume that the conditions must be satisfactory and even inviting for new business firms to establish themselves in the area. Butte's new businesses grew from 90 in 1975 to 134 in 1976 to 179 in 1977. Growth of this magnitude is very encouraging for future economic prospects.

Capital Investments

Construction in Butte-Silver Bow is definitely on the increase with 178% growth from 1976 to 1977 according to the building permits. There was an increase from 130 building permits in 1976 to 1977 of 242. The valuation of the construction has very significantly increased. In 1976 total valuation was $3,282,204 as compared to $8,150,592 in 1977. The information gathered here on building permits comes from the Butte-Silver Bow Building Inspector.

Butte's 1977 economic analysis shows business increases, more new housing, population stability and continued consumer spending. These indicators point out continued growth for 1978 and beyond. Economic diversity and confidence of the people are reasons for this resurgence. There is $261,000 of Economic Development Administration funds for sewer improvements at Rocker; $127,797 for sewer improvements in the Bellevue addition, $408,880 for new housing of the Butte-Silver Bow construction and maintenance facilities; $911,000 for remodeling of the Civic Center; $558,838 for expansion of Stodden Park; $500,000 for a new Montana Tech Auditorium, and a new $2.7 million athletic complex, these all provide increased economic stimulus to the community. In addition there will be a new post office in Butte at an estimated $3 million budget. There are also plans to build a new Bureau of Land Management Headquarters in Butte.

There was an estimated 100 new houses built in 1977 and real estate brokers say there will be a need for at least another 100 houses in 1978. Butte's new housing demand is strong with an estimated $27 million in home mortgages handled in 1977 through local financial institutions.

Future Economic Prospects

The future of the Butte area's economic base will be closely tied to employment in mining, services, retailing and the new industries which are coming into the area. If Butte-Silver Bow is to continue it's growth, stability and quality of life, the natural growth rate of 1% can be anticipated. Economic diversity must continue to shape the community into a growing and moving city. There is a $20 million dollar expansion project going on at the Butte Plaza Shopping Center which definitely points to bright things for Butte's future. Diversification is the name of the game in this long time mining oriented city. There is an increase of active citizen participation and involvement which should continue to play an important role in future planning.

The increased energy developments in the Butte area could easily grow and expand as the combined efforts make for a state, regional or even national center of energy research and development.

Tourism will continue to be an important economic stimulant as Butte capitalizes on its history and culture. The scenic, natural beauty of the area is a continual draw for people of all ages and all walks of life.

The economic growth, vitality and future prospects in this area, certainly warrant the expansion or building of a new Vo-Tech center. The people of the regional area would benefit immensely from such a development, and the Vo-Tech Center would in return, benefit greatly from the expanding regional activities. Education and training is vital to the growth and development of people and the communities of this area.

Public to Be Served

Not only has the Butte Vocational-Technical Center recognized the need to provide training to serve the needs of individuals, business, industry, labor and agencies, but also has demonstrated by an impressive record of placement and advancement of graduates that it has the staff and the means to provide these services. The Center is also aware that we have to provide the needed training for a much broader base of our society. Emphasis must be directed toward training and developing the skilled manpower to expanding industry, to training which serves women as well as men, to veterans, to those workers who have been displaced from jobs by economic or technological changes, to providing salable skills for the high school graduate, to minority groups, to handicapped and those with special needs.

Serving the needs of High School Graduates and Secondary Students

Secondary schools, in most instances, have not been able to provide adequate vocational education programs to students that enable them to fill skilled positions on graduation. There is an increasing interest in vocational education by both high school students and adults. The construction of a new facility and the close articulation of our post-secondary programs with existing secondary programs would develop into a career development ladder system enabling students to advance from a high school program into a next step in an advanced program.

Moving the post-secondary classes out of School District No. 1's Vo-Tech building located across the street from Butte High School will allow the secondary trade and industrial vocational programs to move from rented facilities several blocks from the high school to adjacent School District facilities. It will also allow room to expand the programs to benefit more of the 81% of the high school students who will receive no additional formal education after high school, leave college before completing a four year program, or will attend two year community colleges or vocational-technical school.* The auto mechanics, welding, small engines and electricity classes could be moved into this building, and they, along with machine shop, carpentry and woodworking, drafting, home economics, consumer education and office occupations could be expanded. We would also be able to expand the industrial arts curriculum and give the students a larger variety of preparatory and exploratory experiences before they select a definite trade of occupation.

Upgrading the Employed

The Butte Vocational-Technical Center through both its day and evening programs continually provides specialized training to employees of area businesses enabling the employee to learn a new skill or improve upon their previous training.

*College Dropouts: A National Profile, Dr. A. Astin, U.C.L.A.

The underemployed are also caught in the same morass trapped in jobs where earnings are at a subsistence level. This group, with potential for more challenging work yet possessing no skills which would cause employers to advance them to better positions, has little chance of advancing to a better life.

Training for both groups must not only be continued but should be considerably expanded.

Reduction in the work force of the Anaconda Company in Butte and Anaconda has created antoher sizable group of unemployed who are eligible for training through the Trade Readjustment Act. Many are experienceing difficulty in retraining because of the limitations of our building.

Serving the Handicapped and Special Needs Persons

The Center has had an active involvement in serving the needs of the handicapped and special needs persons which makes up over 11% of the state population.* A good working relationship exists with Rehabilitative Services, Visual Services and other agencies concerned with aiding this group that requires special services.

The Center in its building plan will provide special accommodations to enable the handicapped and special needs persons full use of the facility and equal access to all areas of the building.

The Center with the cooperation of the agencies will provide suitable training and educational materials and supportive services to help these people adjust to their training program.

Serving High School Dropouts

The Five Year State Plan for Vocational Education states that the dropout rate in 1976 for Silver Bow County was 5.5% and for the seven county area including Butte-Silver Bow 3.9% while the average rate for the State was 5.1%

These are students who possess no sabable skills but are nonetheless expected to compete in today's labor market. This high dropout rate has been fairly consistent over the years. A contributing factor to the high dropout incidence is the lack of opportunity by a great many of these students to enroll and explore vocational education programs of their interest. This has not been possible due to the limited facilities of many of the schools in the area causing loss of interest and the subsequent termination of their education.

The unemployment rate for this group is extremely high and it is emperative that special vocational education programming must be provided so this waste of human resources may be substantially reduced.

*Source: Five Year State Plan for Vocational Education, Office of Public Instruction, Oct. 1977.

Serving the Needs of Minorities

The American Indian is demonstrating an increased interest in identifying with career programs at the Center. Indian reservations in Montana and the Dakotas and the Bureau of Indian Affairs are referring more students to the Butte Center.

The Mexican-American group also have a significant number of students enrolled and planning enrollment at the Center. Oriental and student membership from foreign countries is also on the increase.

The Center believes in encouraging minority enrollment and feels more direct effort should be made to recruit these groups.

Transition of Military Personnel to the Civilian Labor Force

The fact that returning military veterans have a higher unemployment rate than their non-veteran counterparts is an established fact.

Despite the utilization of public media information in making a nationwide appeal to hire veterans, this segment of the public is at a disadvantage.

The Butte Vocational-Technical Center realizes youthful veterans have a need for special services. In addition to the full range of ongoing personal services which expedite enrollment and enhance their success, the Center has conducted a vigorous public information program which has acquainted hundreds of veterans with the opportunities available for education and vocational training.

As a direct result of these services and the programs we offer, the enrollment of veterans has constituted a sizeable protion of our enrollment.

An expanded facility will increase the opportunity to veterans who have difficulty enrolling due to the limited student enrollment capacity of the present Center.

Serving the Needs of the Unemployed and Underemployed

For the past ten years the Center has addressed the major effort of its training to the unemployed and underemployed. On problem still existing is that considering the numbers who have been trained in the past the numbers needing training have always exceeded the capability of serving them. Lack of occupational education programs at both secondary and post-secondary levels in the past has resulted in a disproportionate number of unskilled youth and adults in this area. These are the first discharged because of shifts in the economy, changes in technology or in seasonal cutbacks of employees. These are also the persons least able to pay for the training they so desperately need.

VI NEED FOR NEW FACILITIES

EVALUATION OF EXISTING SPACES*

In general, both the instructional and support spaces in the existing building are not large enough to adequately serve the anticipated enrollment. At least two of the program areas present serious problems in terms of student safety. These two programs are Small Engine Repair and Welding. Both of these programs are housed in spaces too small and without adequate provisions to protect health and safety.

The Practical Nursing program is located in inadequate facilities off-campus and should be moved into a new facility housing all program areas. Additional space is badly needed for this program.

The Accounting and Office Occupations programs require more space which would provide for a needed separation of various functions. Support spaces, particularly storage, is badly needed. Additional electrical service is needed for accounting.

The space for Auto Mechanics is fairly adequate; however, other program functions have intruded into this space. These other programs require additional space which can be provided in the new facility. Student wash-up facilities for the entire industrial occupations cluster are inadequate in scope. The classrooms in the Auto Mechanics area are inaccessible to physically handicapped students. There is an insufficient number of hoists in the auto service lab with only one being available.

The Drafting program space is adequate; however, a separate print room would be desirable.

The space for the Civil Engineering Technology program is extremely limited and does not permit the type of laboratory activity involved with soil, concrete, asphalt, etc., testing which is an important part of this program. Compressed air is inadequately provided by a portable unit and water is not available in this room. Additional electrical service is also required.

The Electrical Technology program has only two-thirds of the space needed. Storage space is inadequate. Additional electrical service is required for this area.

The Machine Shop requires both additional instructional and support space in the form of storage areas. Laboratories of this type should be supplied with overhead electrical service to the machines rather than in-floor outlets which limit flexibility.

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*This evaluation of the existing building was made by Alger Associates Inc., and in general is supported by the State Department of Public Instruction, 1977 evaluation.

The Small Engine Repair laboratory is totally inadequate in terms of both space and mechanical and electrical services. These inadequacies present a safety problem. A laboratory of this type, using combustible fuels, should not be located under areas of student use, as is now the case with classrooms above this area.

As a general note, the laboratories housing potentially dangerous machinery and equipment should be provided with panic electrical disconnect switches strategically located. This is not the case throughout the building.

The Welding Laboratory is inadequate in size and lacks sufficient support space particularly for cylinder storage. The built-in ventilation system is not adequate. Some of the welding work stations are located in the auto service area.

Additional space is required for the Adult Basic Education program.

Much of the general space needed to support the instructional program is inadequate as shown in the space allocation chart for the new facility. An additional 15,000 sq. ft. is needed for these functions.

The following chart provides a summary evaluation of the existing program spaces.

SUMMARY EVALUATION OF EXISTING SPACES

PROGRAM	INSTRUCTIONAL SPACE			SUPPORT SPACE			MECHANICAL SERVICE*			ELECTRICAL SERVICE*			LOCATION RELATIONSHIP			OVERALL FACILITY RATING		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
1. Accounting			X			X		X			X			X				X
2. Key Punch			X			X		X			X			X				X
3. Secretarial			X			X			X			X		X				X
4. Auto Mech.		X				X		X			X			X			X	
5. Drafting		X				X		X			X			X			X	
6. Civil Engr. Tech.			X			X			X			X		X				X
7. Elect. Tech.			X			X			X			X		X				X
8. Machine Shop			X			X			X			X		X				X
9. Small Engine Repair			X			X			X			X			X			X
10. Welding			X			X			X			X			X			X
11. L.P.N.			X			X		X				X			X			X
12. Adult Basic Ed.			X			X		X			X			X				X
13. General Space			X			X		X				X		X				X

KEY: 1 - More than adequate
2 - Adequate
3 - Inadequate

*Evaluated in terms of instructional requirements only.

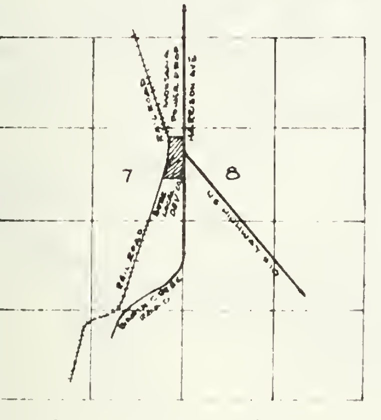
VII SITE FOR NEW FACILITY

SITE EVALUATION

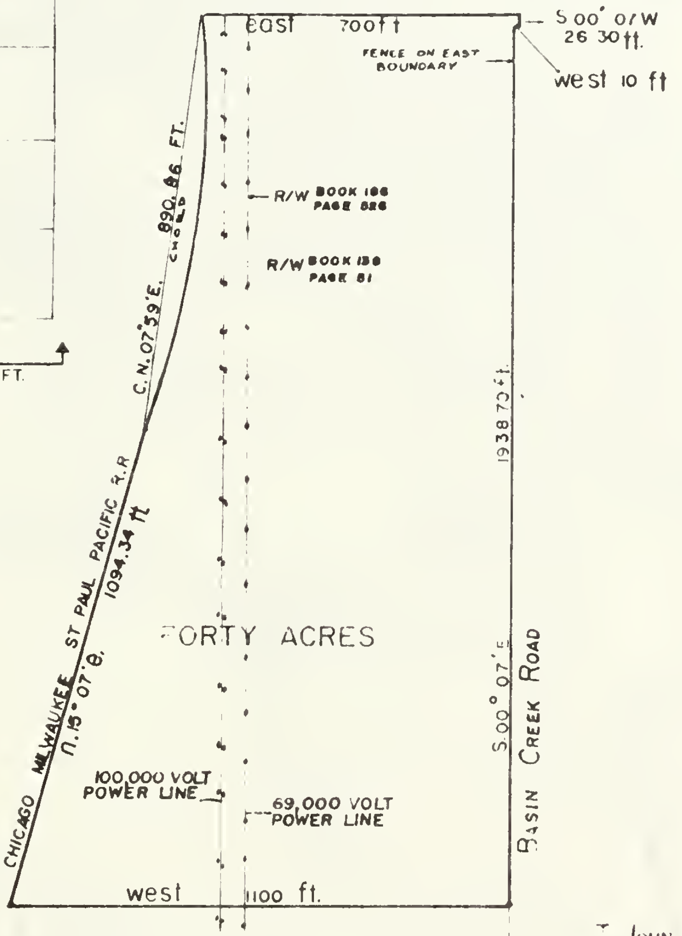
This recommended site, upon which all pre-planning is based was chosen for the following reasons:

1. Total site contains some 40 acres which will provide adequate space for the proposed building plus future growth.
2. Demolition and removal of existing structures or buildings not required.
3. Ground and subsoil investigation have determined that this site will provide the firm support required by this type of building Water table is low and there is absolutely no evidence of subsidence.
4. All utilities including, electric service, metro sewer system, water and gas mains, are either located on the site or are immediately adjacent to the site.
5. The site is relatively level but will require a minimum amount of fill.
6. Easy vehicular access to the site without undue grade differential.
7. Adequate parking for students and building personnel can easily be provided.

Portion Section 7 T. 2 N R. 7 W



AREA MAP scale: 1IN = 1 MILE OR 5,280 FT.



scale 1in=200 ft.

A TRACT OF LAND SITUATED IN THE NORTHEAST QUARTER OF SECTION 7, T2N., R.7W. MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHEAST CORNER OF THE TRACT HEREIN DESCRIBED FROM WHICH THE SOUTHEAST CORNER OF SECTION 7, T2N., R.7W. BEARS FIRST COURSE S.00° 07'E., 1938.30 FT., THENCE SECOND COURSE N89°20'E., 60 FT., RUNNING THENCE FROM THE POINT OF BEGINNING WEST 1100 FT. TO ITS INTERSECTION WITH THE EASTERLY RIGHT OF WAY BOUNDARY OF THE CHICAGO, MILWAUKEE, ST. PAUL RAILROAD; THENCE N15° 07'E., 1094.34 FT. ALONG THE EASTERLY BOUNDARY OF SAID RAILROAD; THENCE ON A CURVE TO THE LEFT WHOSE RADIUS IS 5780 FEET. AND WHOSE CHORD BEAR N 07° 59' E, 890.86 FT.; THENCE EAST 700 FT. MORE OR LESS TO ITS INTERSECTION WITH THE WESTERLY RIGHT OF WAY BOUNDARY OF U.S. HIGHWAY NO. 10; THENCE S. 00°07'E., 26.30 FT.; THENCE WEST 10 FT.; THENCE S00°07'E., 1938.70 FT. TO THE POINT OF BEGINNING CONTAINING 40 ACRES MORE OR LESS.

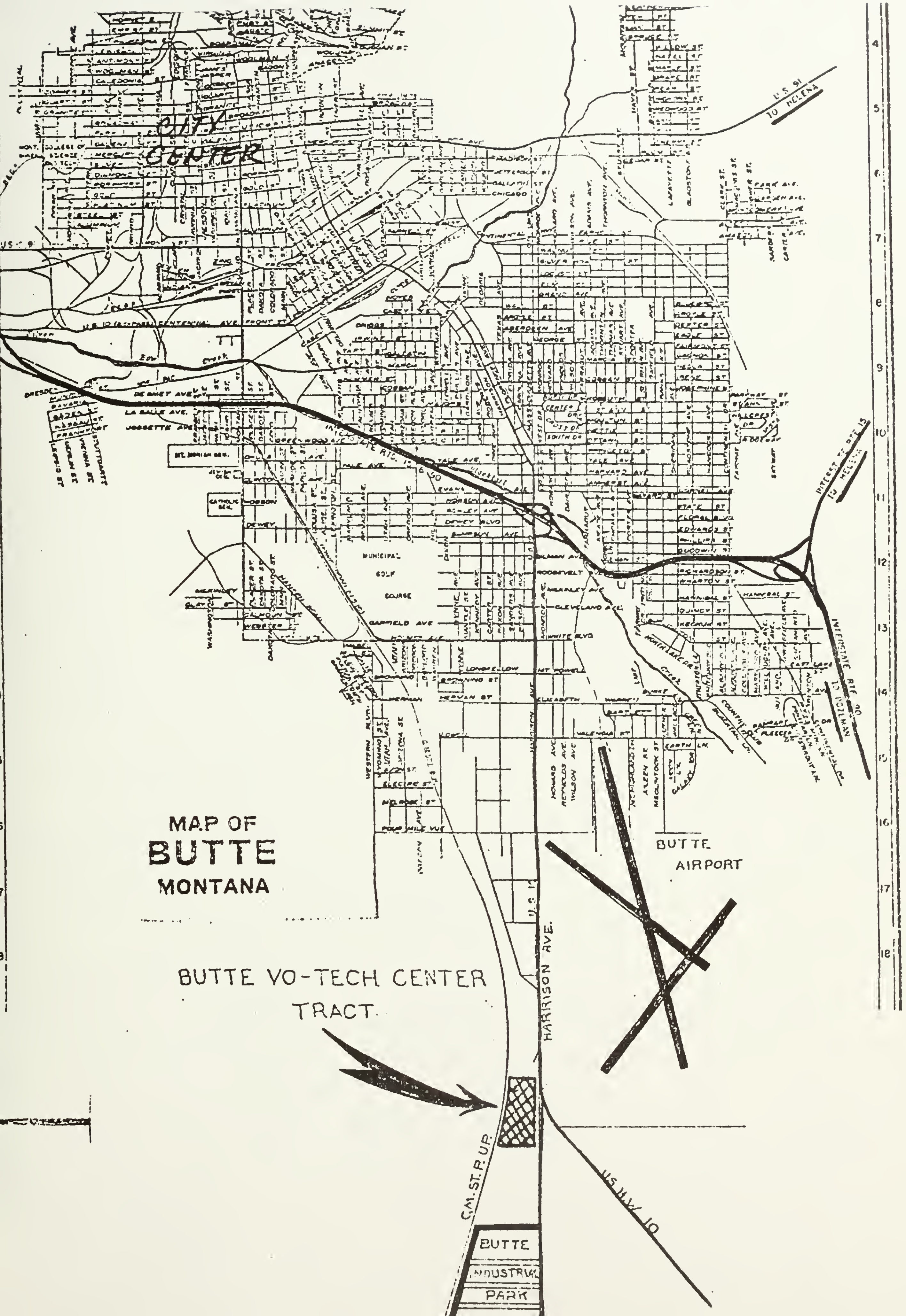
I, JOHN L. BROWN, HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR IN THE STATE OF MONTANA AND THAT THE ATTACHED IS A TRUE AND CORRECT PLAT OF A SURVEY PERFORMED BY ME ON OCTOBER 8, 9, 1974 AT THE REQUEST OF THE BUTTE LOCAL DEVELOPMENT COMPANY

John L. Brown
JOHN L. BROWN NO. 2236 S
2000 GARRISON, BUTTE, MT.

SUBSCRIBED AND SWORN TO BEFORE ME THIS 9 TH. DAY OF OCTOBER, 1974.

NOTARY PUBLIC STATE OF MONTANA
MY COMMISSION EXPIRE OCT. 13, 1975

BROWN'S LAND SURVEYING	
FORTY ACRES LOCATED IN	DATE OCT 8, 9, 1974
SECTION 7	DRAWN BY D BROWN
T 2 N. R. 7 W.	SURVEY BY J.L. BROWN 2236 S


MAP OF
BUTTE
MONTANA
CITY CENTER
U.S. 91 TO HELENA
INTERST. RTE 15 TO HELENA
INTERSTATE RTE 90 TO BOZEMAN
U.S. 10
CENTENNIAL AVE
FRONT ST.
INTERSTATE RTE. 15 & 90
MUNICIPAL GOLF COURSE
ST. MORITZ CEM.
CATHOLIC CEM.
CONTINENTAL
HARRISON AVE.
U.S. 10
BUTTE AIRPORT
BUTTE VO-TECH CENTER TRACT
C.M. ST. P. U.P.
U.S. HWY 10
BUTTE INDUSTRIAL PARK
4
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18

VIII DESCRIPTION
OF
PROPOSED NEW FACILITY

ARCHITECT'S STATEMENT

Design Criteria and Development

The pre-planning studies and drawings shown here are based primarily on data commendably prepared and supplied by the staff of the Butte Vo-Tech Center and Alger Associates, Inc., of Grand Rapids, Michigan. Voluminous material and statistics along with our personal observations have been absorbed and evaluated. Numberous conferences, reviews and exchange of criteria resulted in space allocations and design guidelines.

The building design shown here is the fruitation of the architect and the staff in what we believe to be an honest, economical and comprehensive development of preliminary planning for this critically needed structure. The effort presented here does not assume to have answered all questions that will arise before the building is constructed and occupied. Pre-planning and design can only be completed after all reviewing governmental and other authorities have stated respective qualifications and/or concurrence.

Our goal is to present a feasible design with an accurate preliminary cost analysis on which enabling favorable legislation might be based.

Future Expansion

Future expansion of this facility is not contemplated at this time, however, if the need should arise, expansion could easily be accomplished. Changes in curriculum within the building would require a minimum of effort.

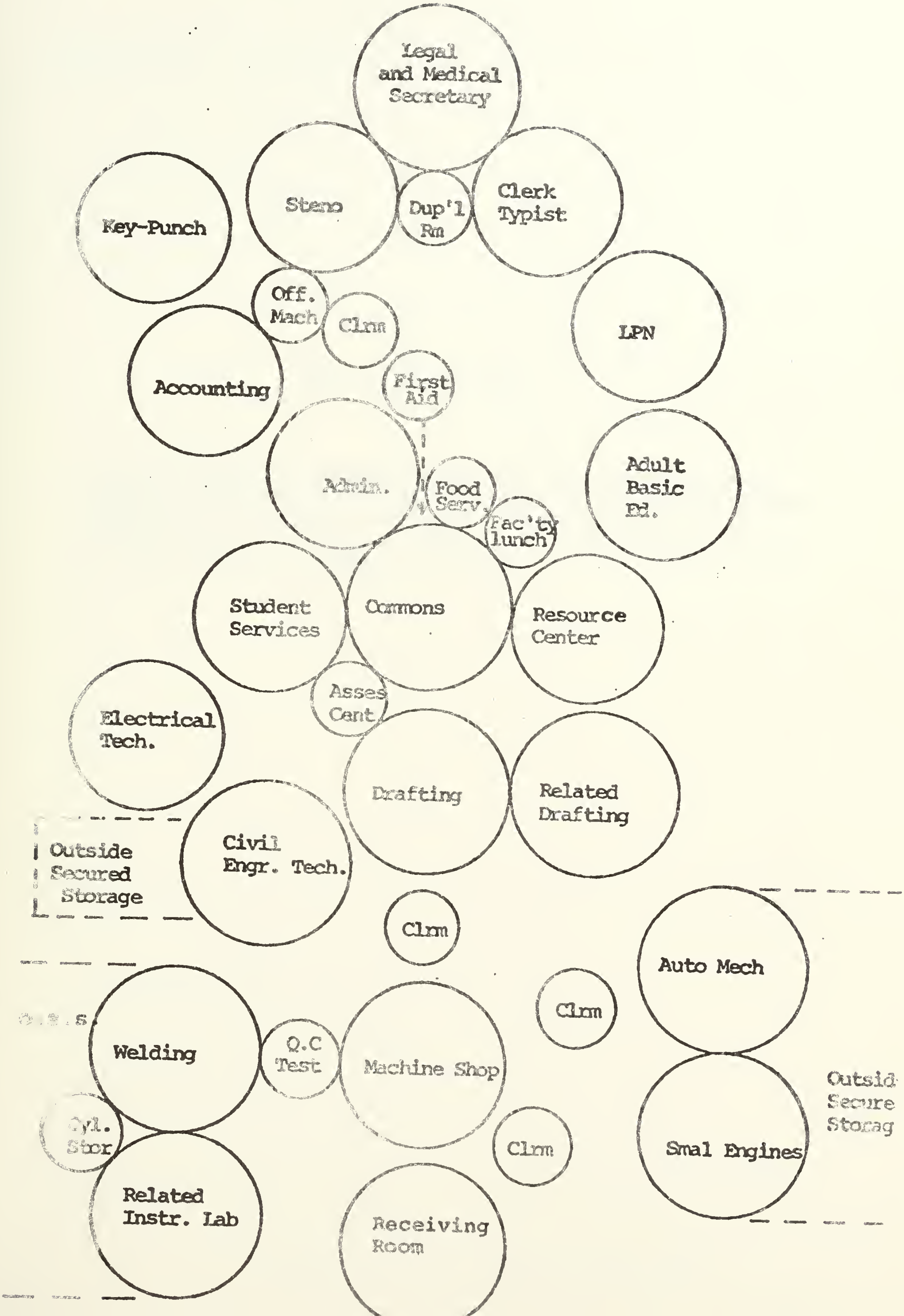
Costs

The preliminary cost estimates contain material and labor values expected at a building date of mid 1979. Proposals for construction contracts invited at a later date would of necessity require modification upward.

PROGRAM RELATIONSHIPS

The following diagram shows the desired relationship among the various programs to be housed in the new Center. This diagram was followed by the Architect in developing the building schematic drawing, which is included elsewhere in this document.

RELATIONSHIP PROGRAM



SPACE ALLOCATIONS

The following table presents major space allocations for the proposed new Vo-Tech Center. These allocations conform with accepted national standards as well as guidelines for vocational-technical school construction as published by a number of states.

Student Space Allocations

INSTRUCTIONAL SPACE	#STUDENT STATIONS	INSTR. SQ.FT.	SUPPORT SQ.FT.	TOTAL SQ.FT.	INSTR. SQ. FT./S.S.
1. Accounting	30	1500	150[1]	1650	50
2. Office Mach.	25	1625	150[2]	1775	65
3. Key Punch	25	1625	150[3]	1775	65
4. Secretarial					
Steno	25	1250	100[4]	1350	50
Clerk Typist	25	1250	100[5]	1350	50
Legal Sec'y	15	1500	850[6]	2350	50
Med. Sec'y	15				
5. Auto Mech.	25	5000	2000[7]	7000	200
6. Drafting	20	1300	300[8]	1600	65
7. Related Drafting	20	1300	--0--	1300	65
8. Civil Engr. Tech.	25	2000	200[9]	2200	80
9. Elect. Tech.	40	2600	600[10]	3200	65
10. Machine Shop	20	3600	400[11]	4000	180
11. Small Engine Repair	25	2750	600[12]	4350	150
12. Welding	20	3600	650[13]	4250	180
13. Related Instr. Lab	20	3600	650[14]	4250	180
14. Qual. Control & Testing	20	1200	200[15]	1400	60
15. L.P.N.	60	4800	400[16]	5200	80
16. Adult Basic Ed.	40	1500	--0--	1500	37
TOTALS:	495	43,000	7,500	50,500	-------

see following page for footnotes

FOOTNOTES

1
Storage Room

2
Storage Room

3
Storage Room

4
Storage Room

5
Storage Room

6
Storage Room, 100
Dupl. Room, 750

7
Parts & Tool Room, 400
Storage Room, 400
Speciality Lab, 1200

8
Print Room

9
Storage Room

10
Storage Room

11
Tool crib, 200
Storage Room, 200

12
Parts & Tool Room, 300
Storage Room, 300

13
Tool crib, 250
Storage Room, 400
Cyln. Storage, 750
(outside storage)

14
Tool crib, 250
Storage Room, 400

15
Storage Room

16
Storage Rooms

GENERAL SPACE REQUIREMENTS

1.	Multi-Media Resource Center		
	a. Reading area	2,000	
	b. Work room	200	
	c. Office	150	
	d. AV storage	200	
	e. Media Preparation	1,200	
	Sub-Total		3,750
2.	Administration		
	a. Recep/Sec'y	400	
	b. Offices (3)	450	
	c. Workroom storage	300	
	d. Conference Room	400	
	Sub-Total		1,550
3.	Student Services		
	a. Counseling		
	b. Placement		
	c. Recep./Sec'y		
	d. Storage		
	e. Book Store		
	f. Financial aid office		
	g. Conference room		
	h. Assessment center		
	Sub-Total		3,200
4.	Food Service		4,000
5.	Commons		

6.	Classrooms (4)	3,000
7.	Staff Offices (26)	2,080
8.	First Aid	400
9.	Faculty Lunch Room	750
10.	Receiving Room	1,200

TOTAL GENERAL SPACE	19,930
TOTAL INSTR. SPACE	50,500
TOTAL NET ASSIGNABLE SPACE	70,430 sq. ft.
AMOUNT ANCILLARY SPACE	20,248
GROSS SQUARE FEET	90,678

SPACE COMPARISIONS

Each major space used in the existing building was compared with the spaces being designed in the new building. The table on the next page presents this comparision and shows that for the anticipated enrollment, the existing facility is not adequate in size to conduct quality programs.

Space Comparisons

Existing and New Facility

PROGRAM	EXISTING FACILITY SQ. FT.	NEW FACILITY SQ. FT.	DIFFERENCE
1. Accounting	658	1,650	992
2. Key Punch	609	1,775	1,166
3. Secretarial	2,580	6,825	4,245
4. Auto Mechanics	6,483	7,000	517
5. Drafting	1,431	1,600	169
6. Civil Engr. Tech.	899	2,200	1,301
7. Electrical Tech.	2,048	3,200	1,152
8. Machine Shop	3,394	4,000	606
9. Small Engine Repair	669	4,350	3,681
10. Welding	1,547	4,250	2,703
11. L.P.N.	825	5,200	4,375
12. Related Drafting	--0--	1,300	1,300
13. Related Instr. Lab	--0--	4,250	4,250
14. Qual. Control and Testing	--0--	1,400	1,400
15. Adult Basic Ed.	1,120	1,500	380
16. General Space	5,014	19,930	15,216
NET ASSIGNABLE SPACE:	27,277	70,430	43,153

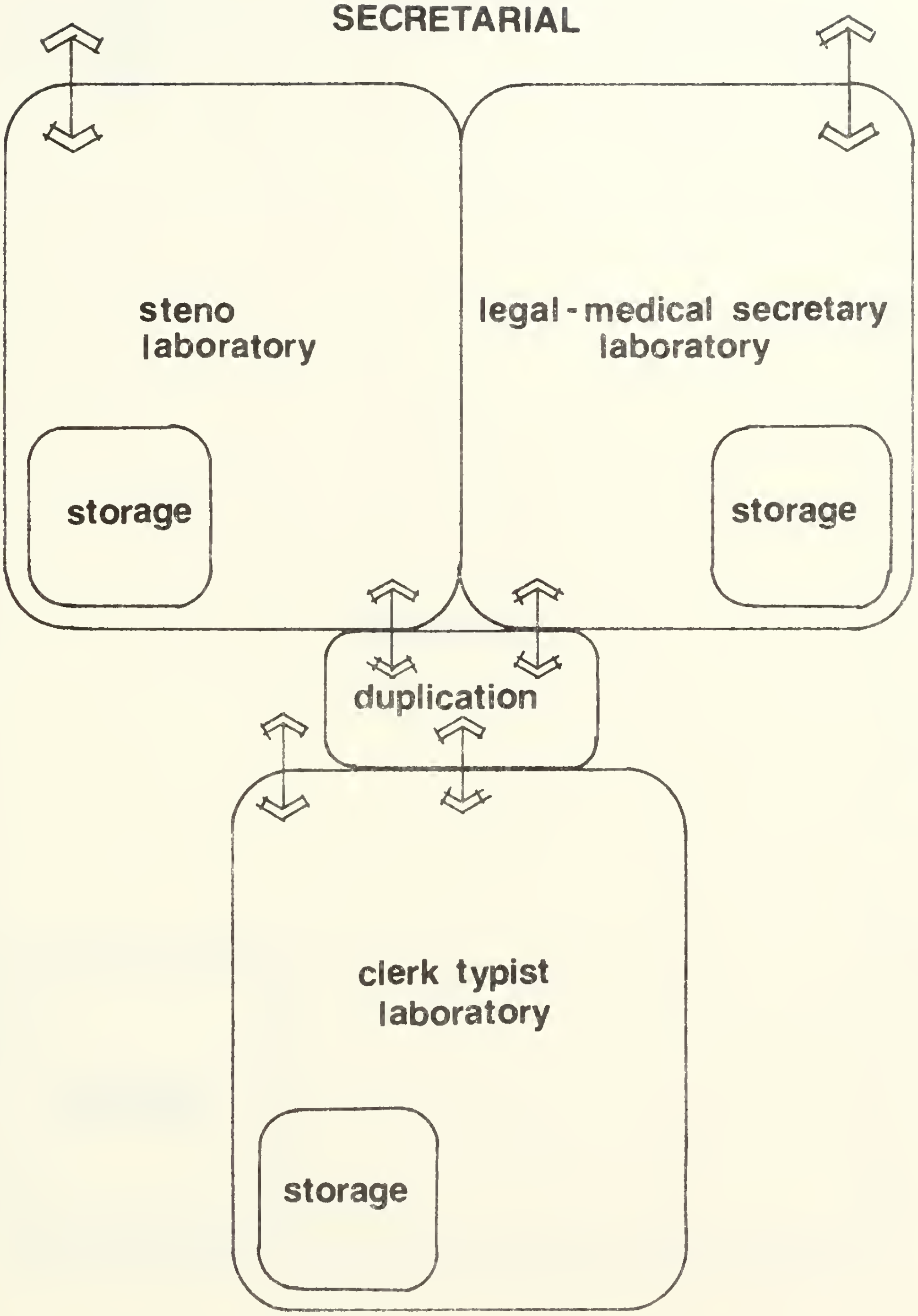
CONCEPTUAL DRAWINGS

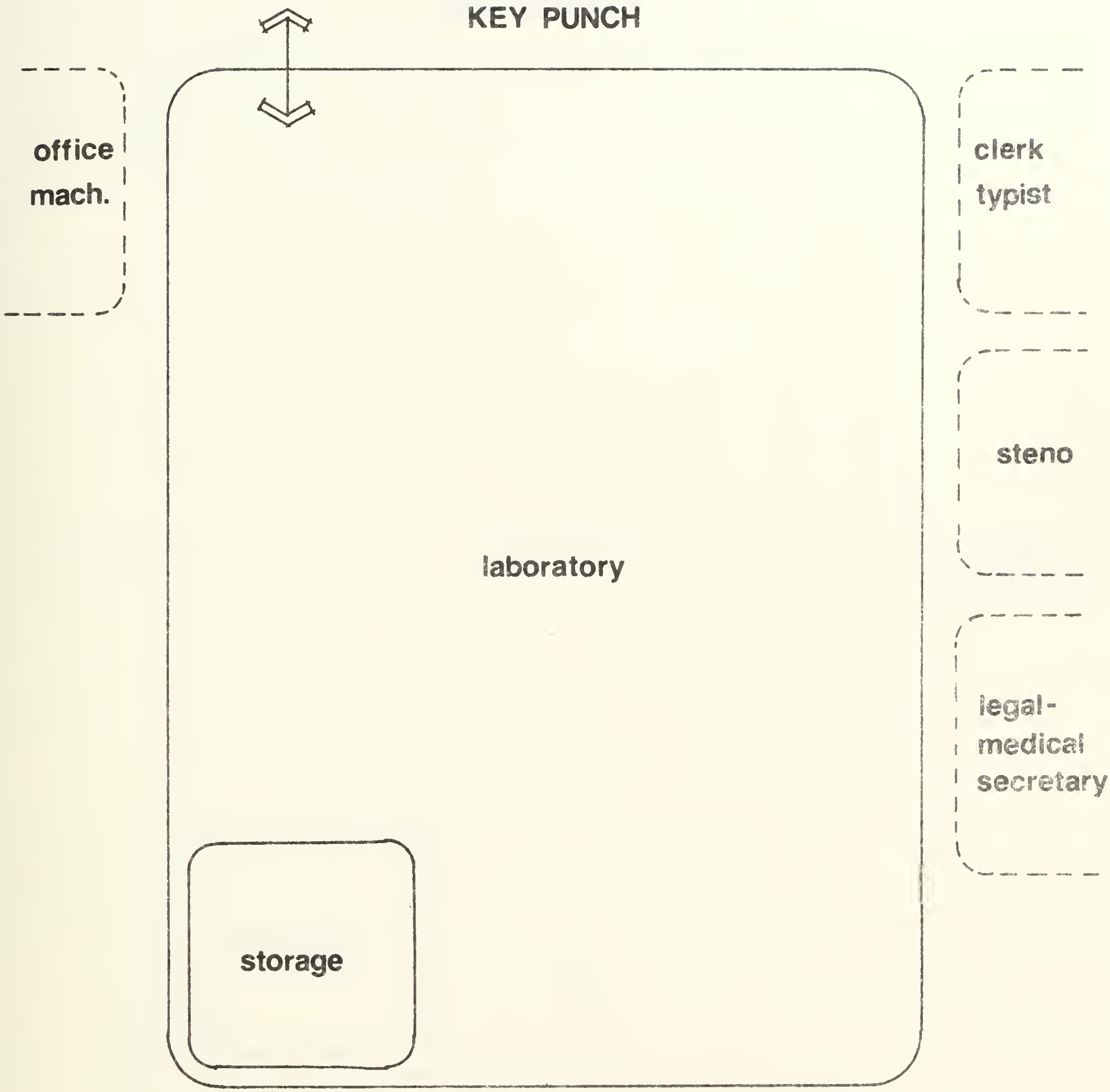
AND

FACILITY DESIGN REQUIREMENTS

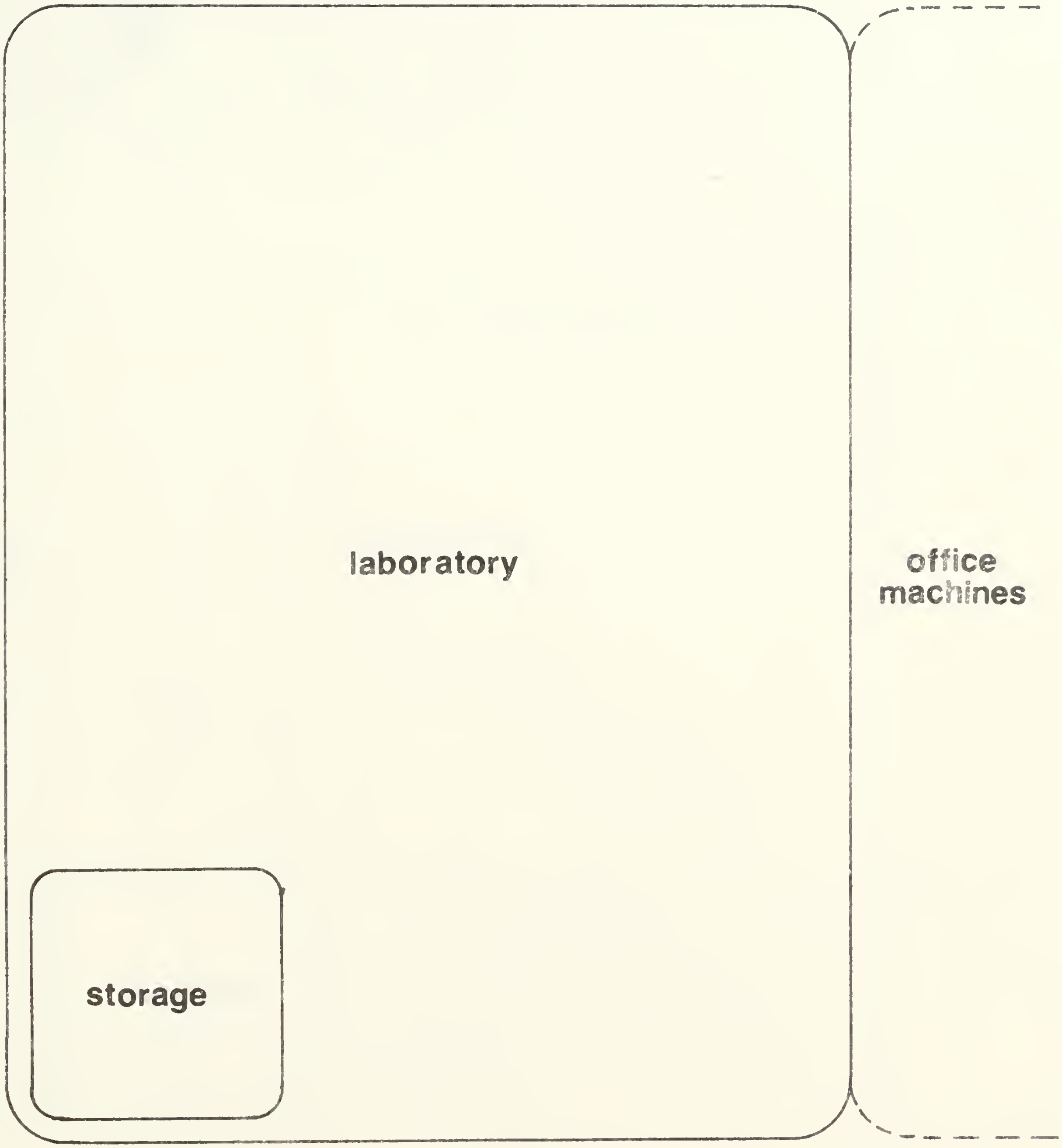
The following conceptual drawings are not drawn to scale but merely show internal relationships within each major instructional space as a guide for development of schematic drawings. Included in this section is instructional design requirements for each space. These factors are important design considerations which affect the ability to produce quality instruction within a vocational-technical facility.

SECRETARIAL

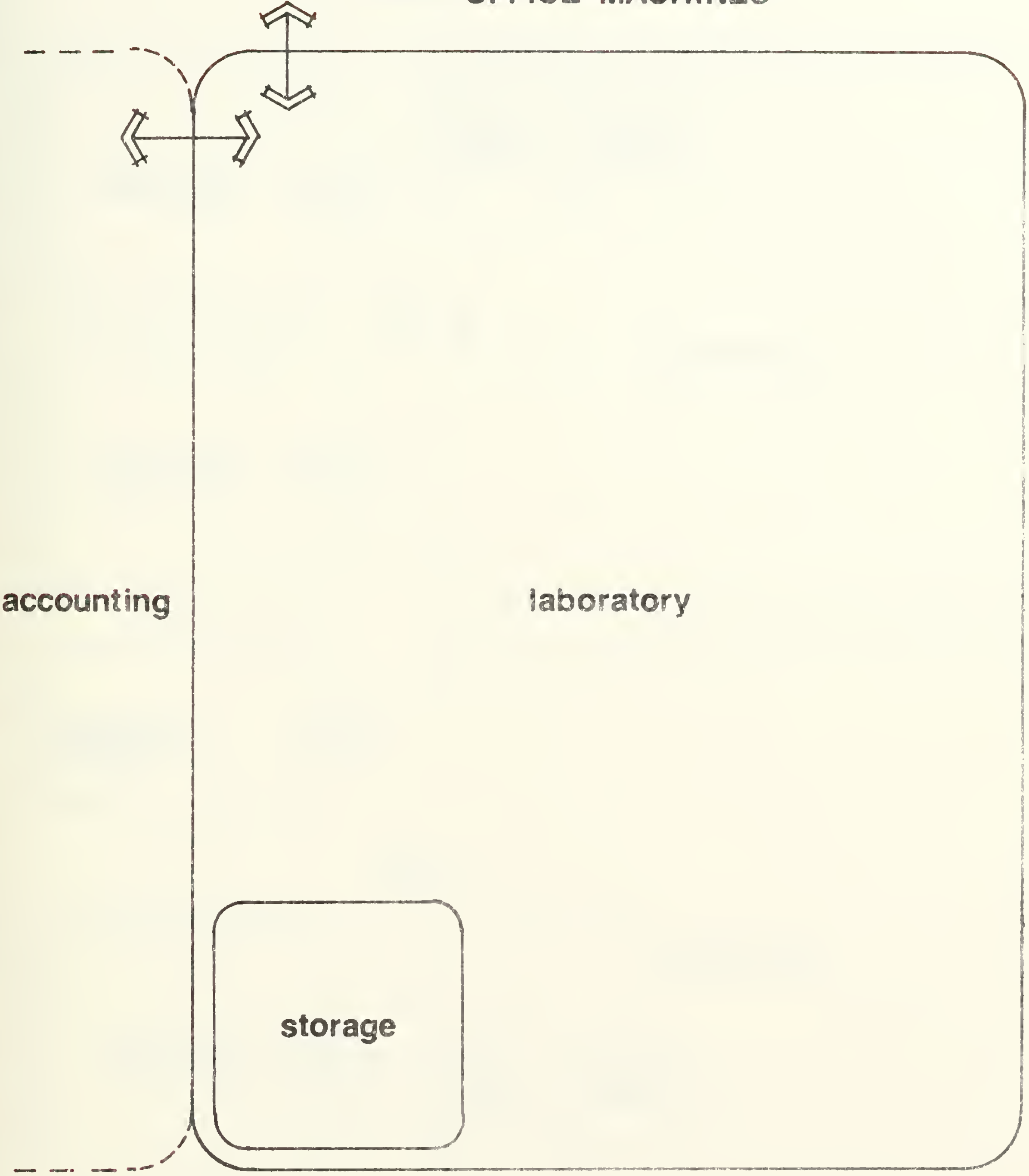



KEY PUNCH
office mach.
clerk typist
steno
laboratory
legal-medical secretary
storage

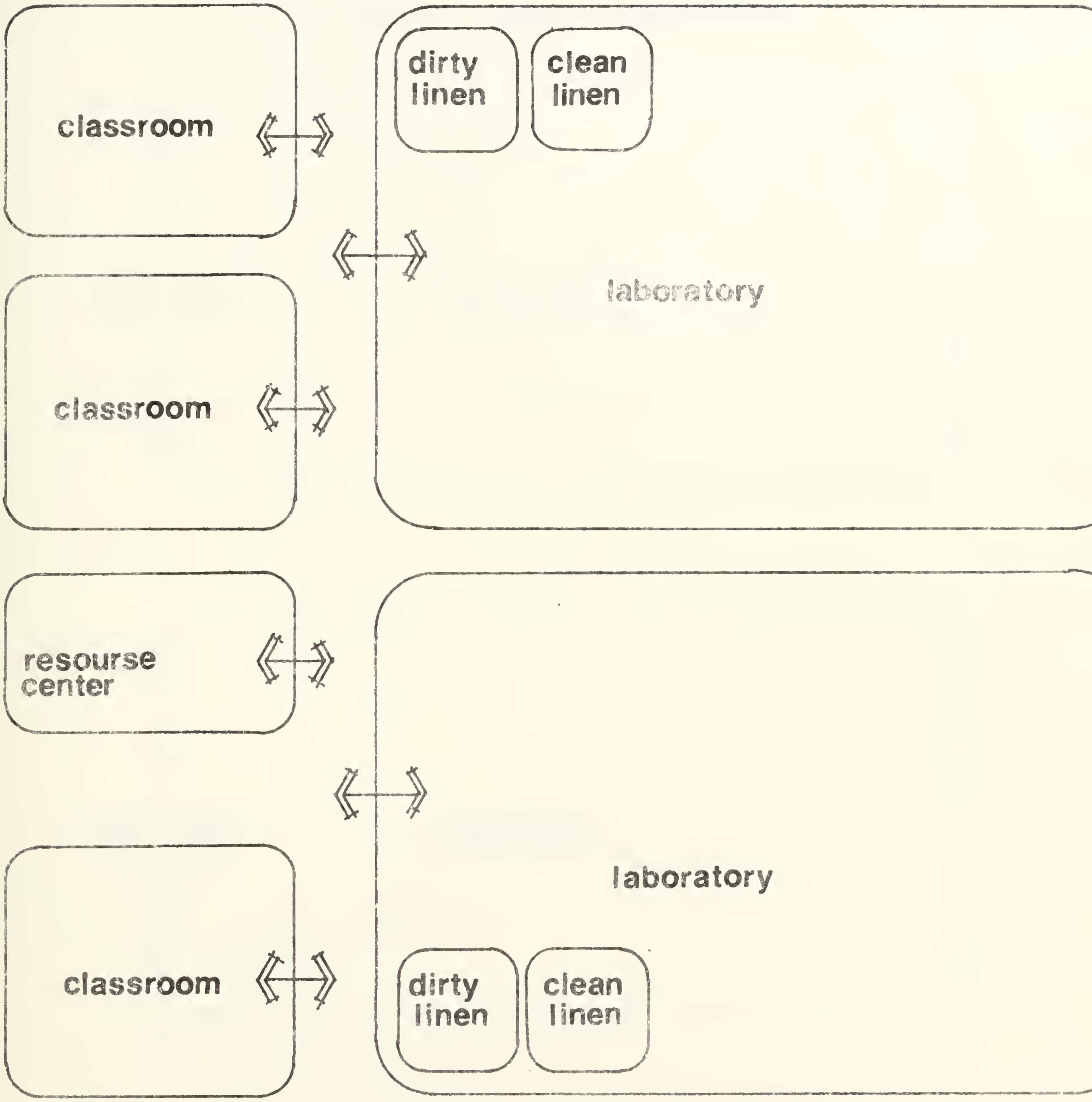
ACCOUNTING



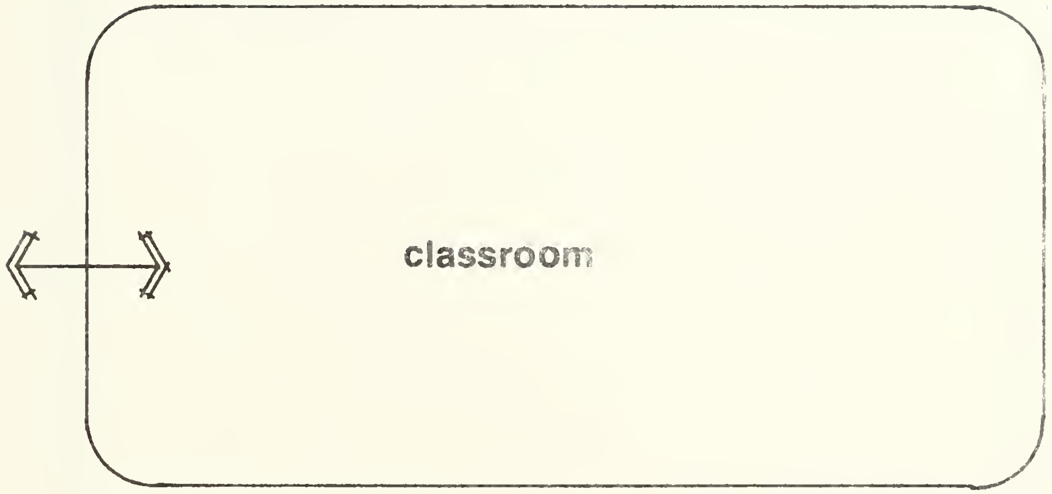
OFFICE MACHINES

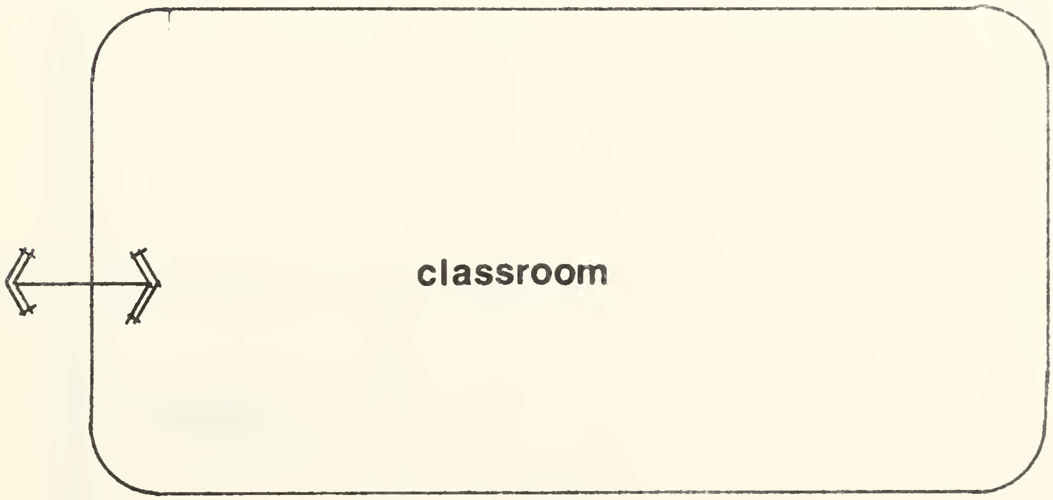


PRACTICAL NURSING

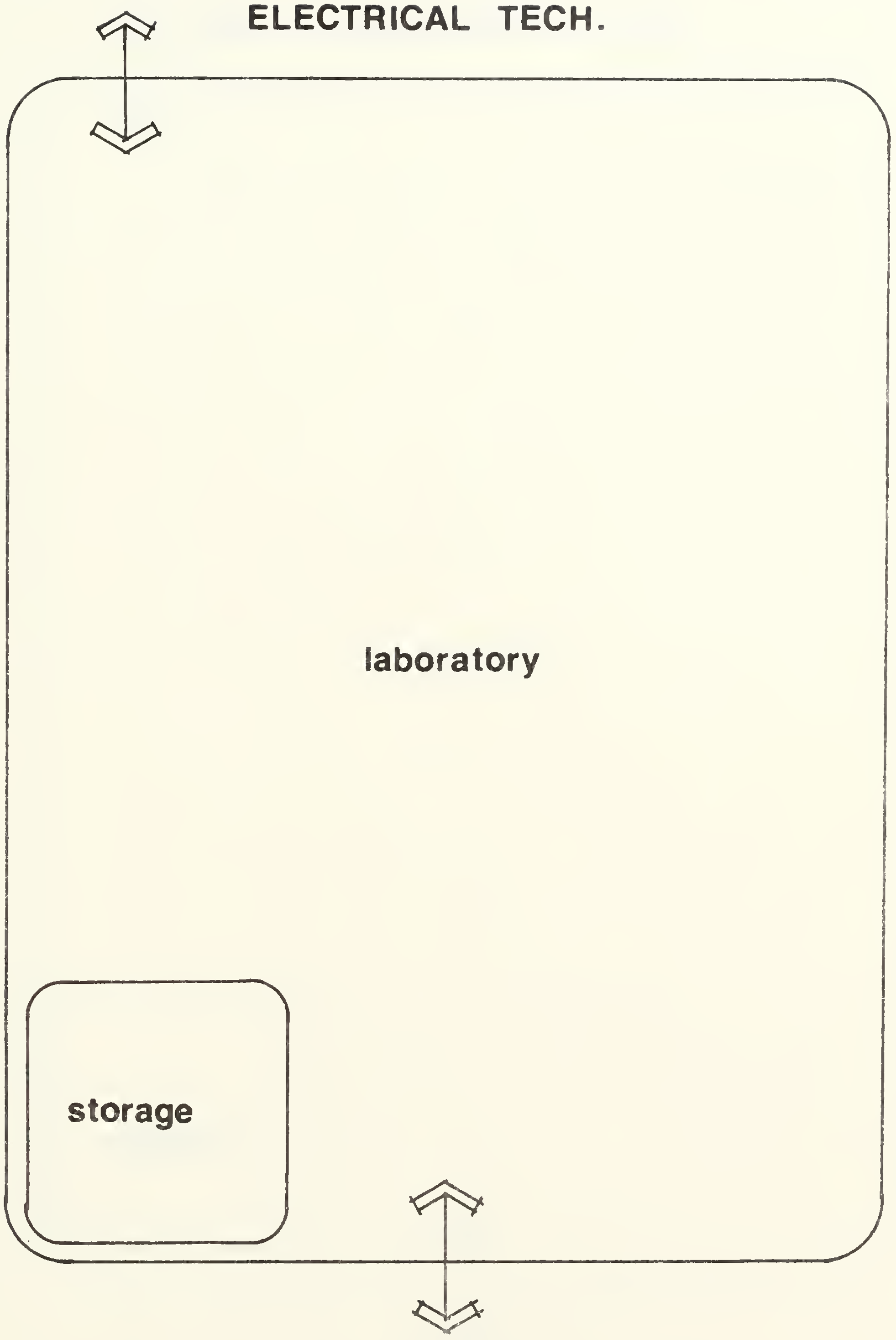


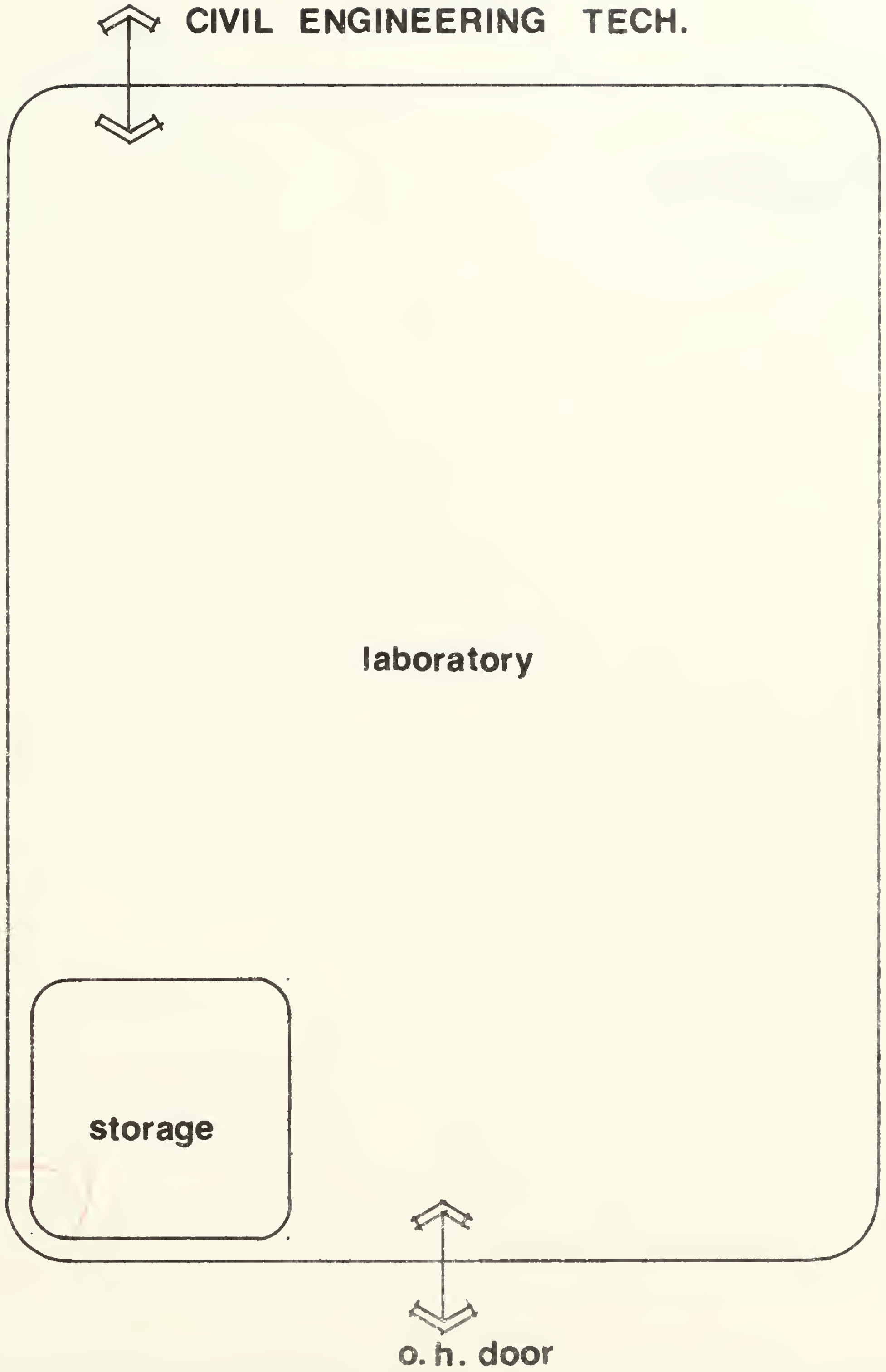
ADULT BASIC EDUCATION



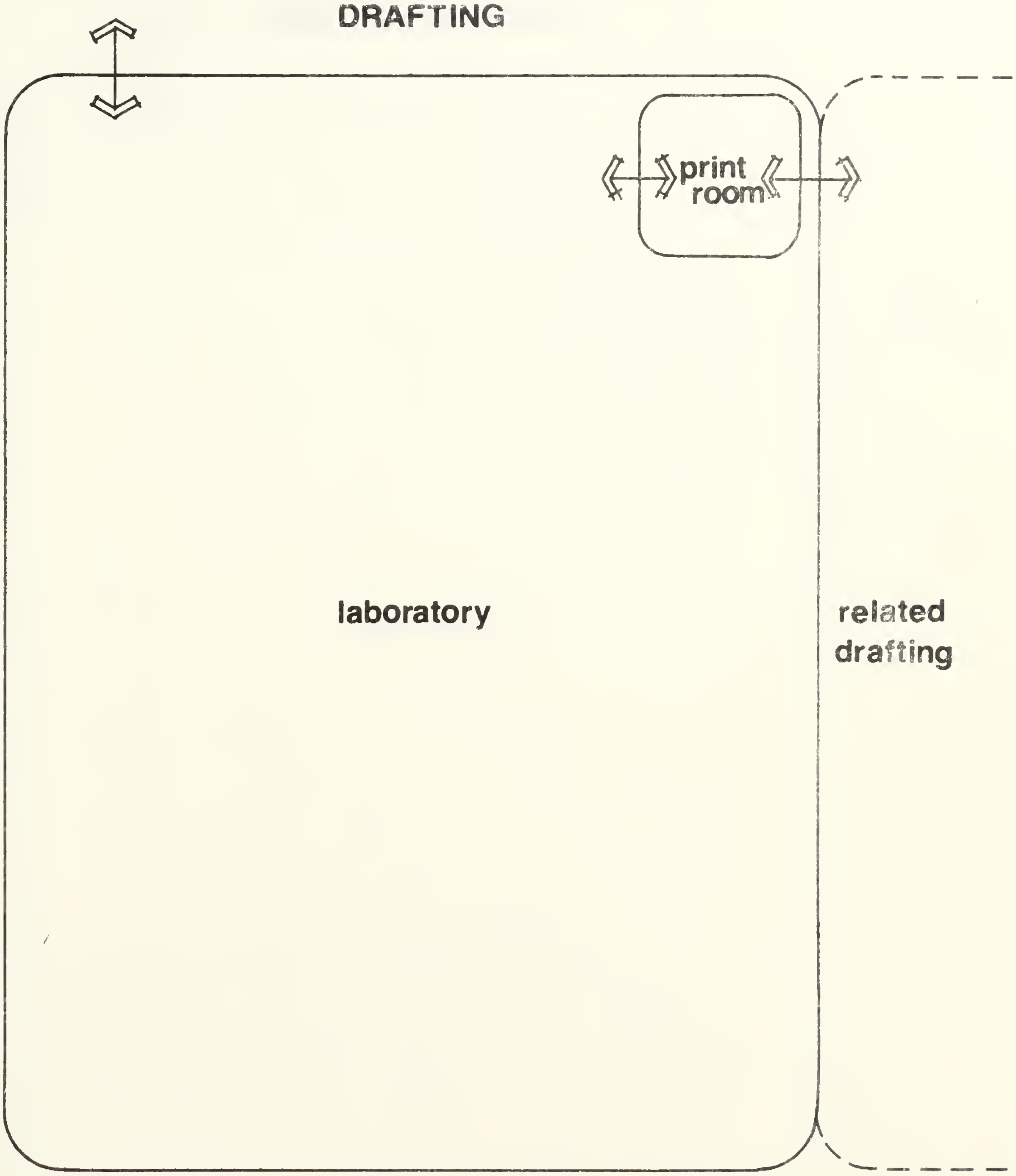


ELECTRICAL TECH.

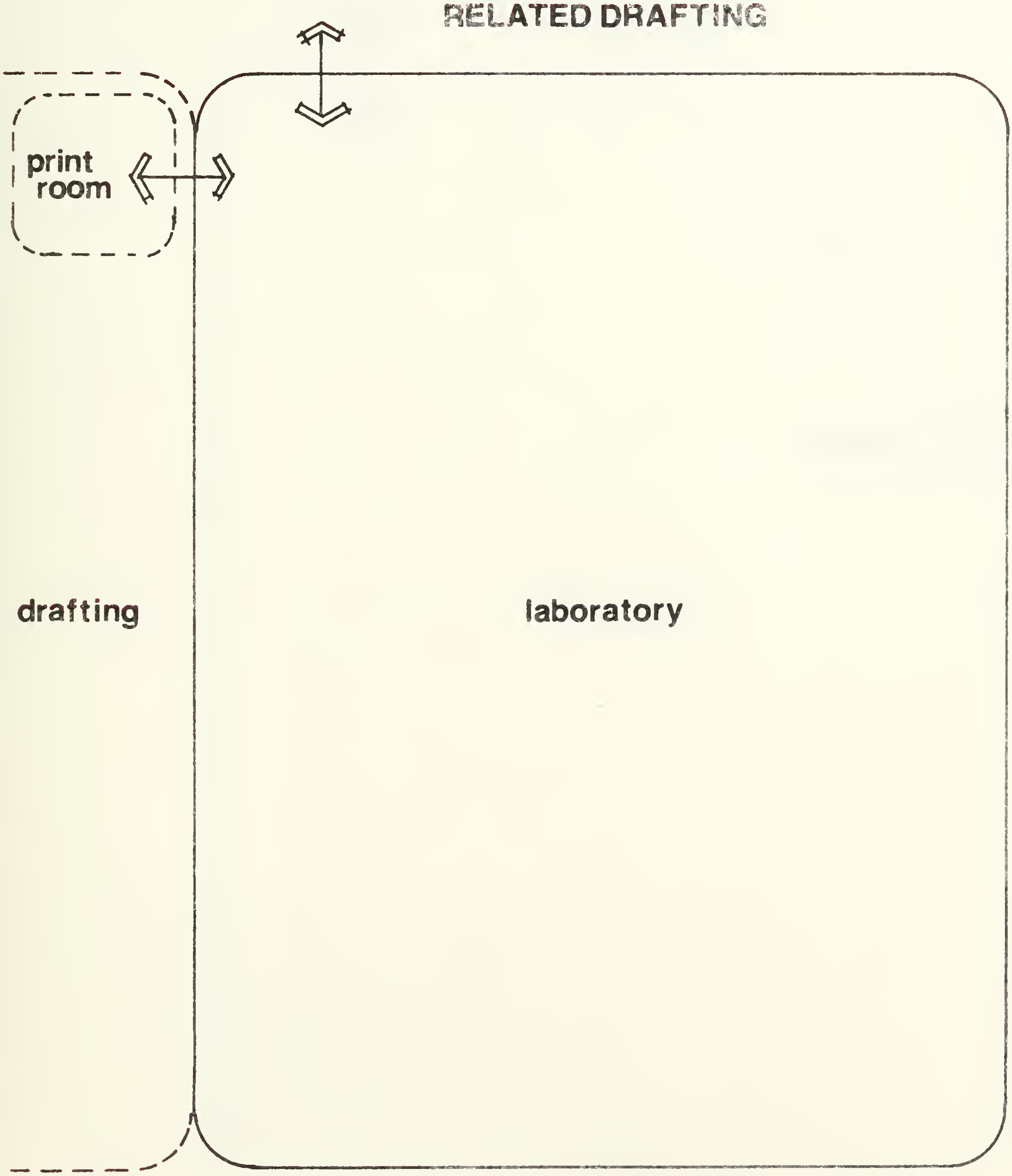


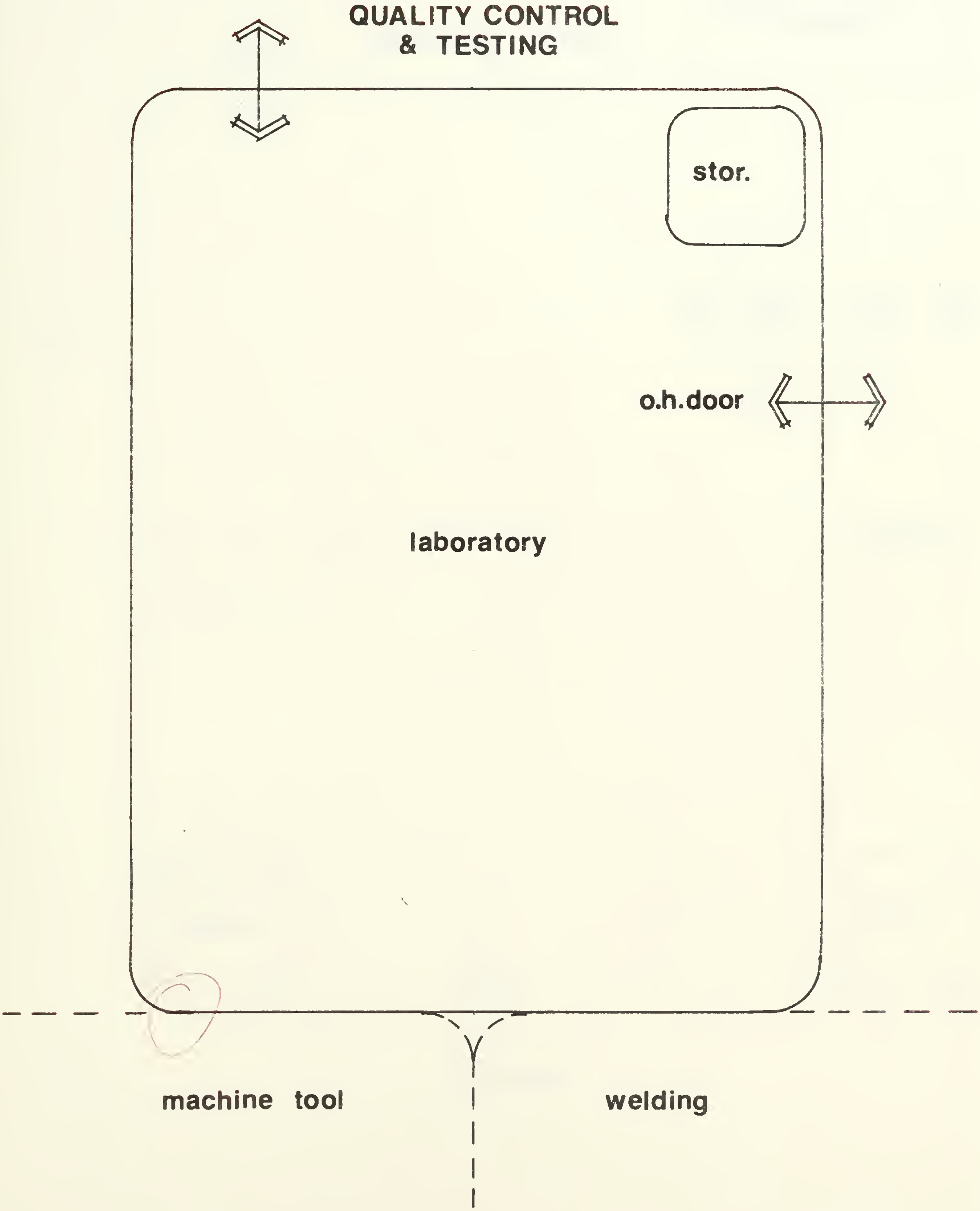

CIVIL ENGINEERING TECH.
laboratory
storage
o. h. door

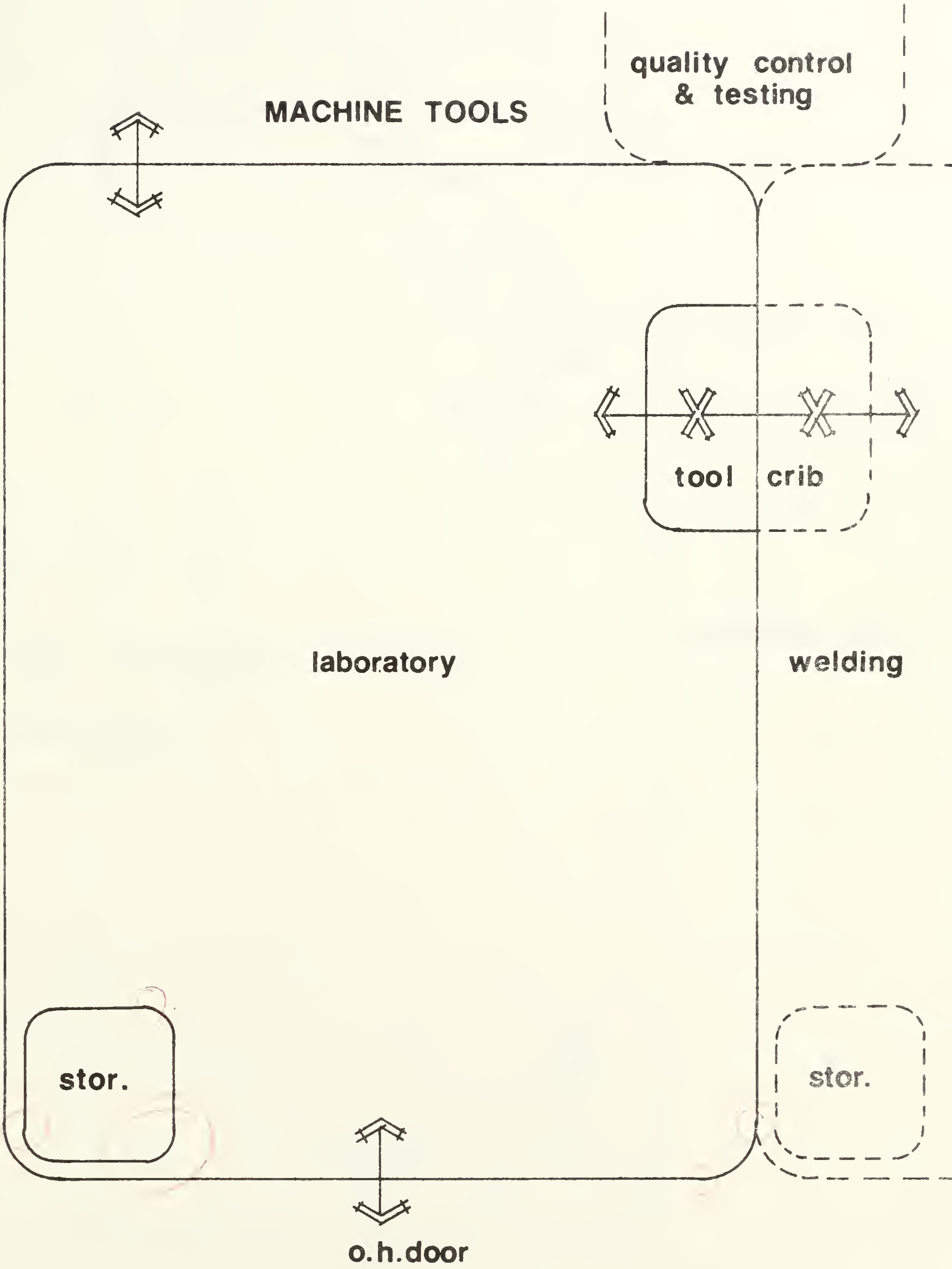
DRAFTING



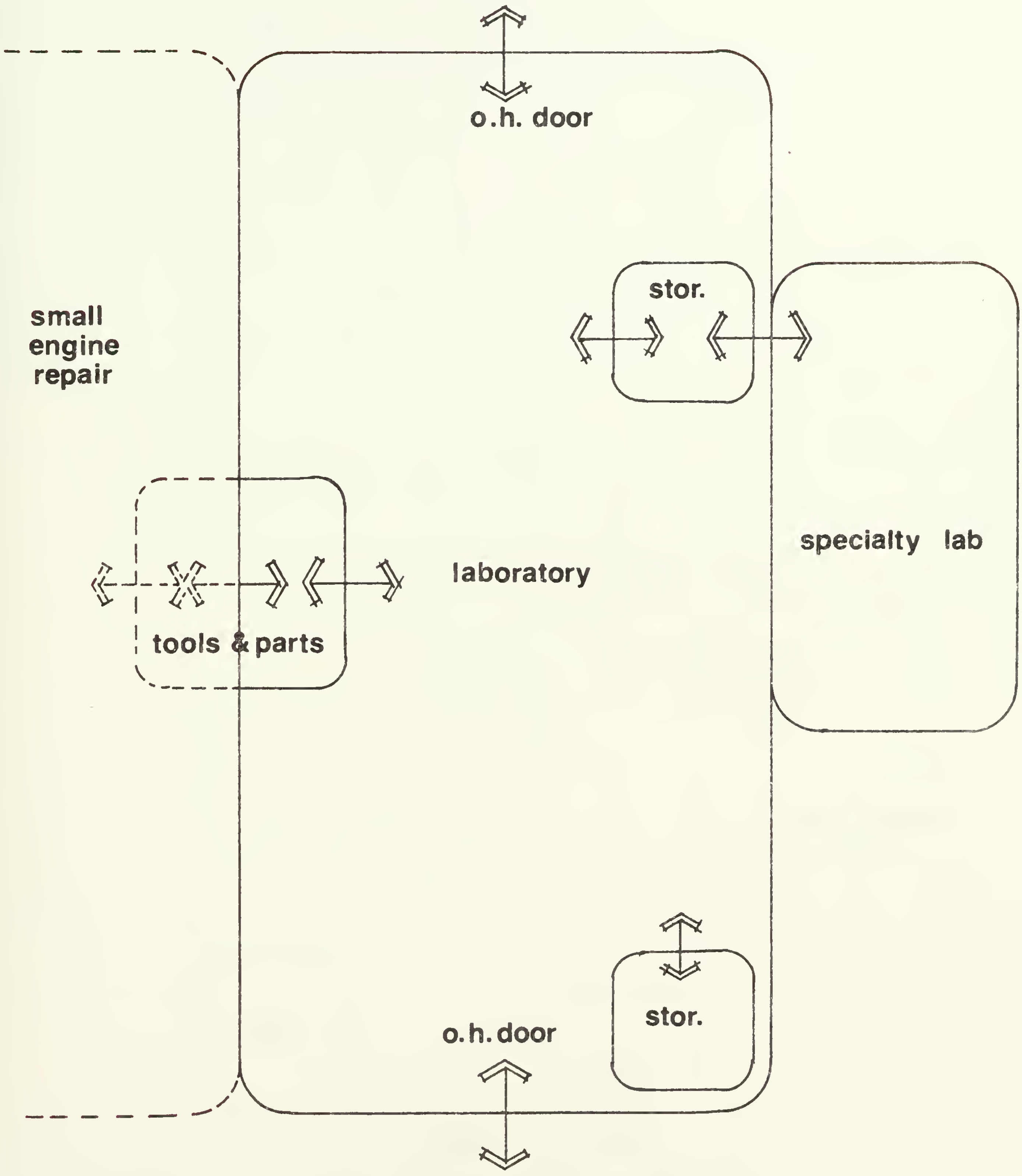
RELATED DRAFTING



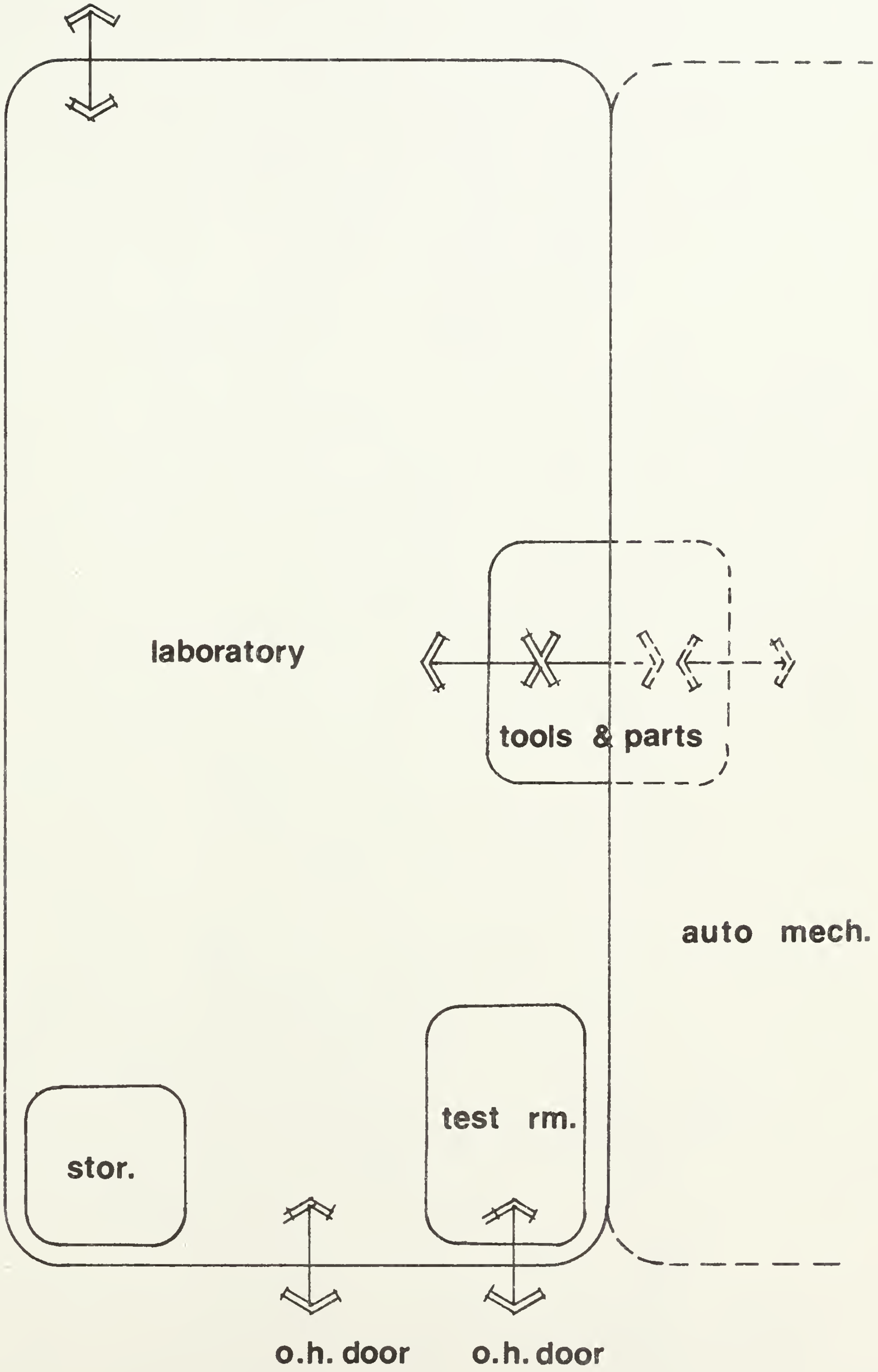

QUALITY CONTROL
& TESTING
stor.
o.h.door
laboratory
machine tool
welding


quality control & testing
MACHINE TOOLS
tool crib
laboratory
welding
stor.
stor.
o.h.door

AUTO MECHANICS



SMALL ENGINE REPAIR



VIII DESCRIPTION

OF

PROPOSED NEW FACILITY

DESCRIPTION OF PROPOSED NEW FACILITY

The building will be a one story structure of pleasing design, varing in height from twelve feet to twenty feet, depending upon the ceiling height required for the various instructional programs offered.

All design shall be based upon the Uniform Building Codes, Life Safety Code, and will strictly adhere to the Federal and State requirements pertaining to access by the handicapped and energy conservation.

Exterior site work shall include properly drained asphalt roadways and parking area's, landscaping to prevent soil erosion and to beautify the site, security perimeter fencing, and all concrete sidewalks and curbs required.

Material and Methods of Construction

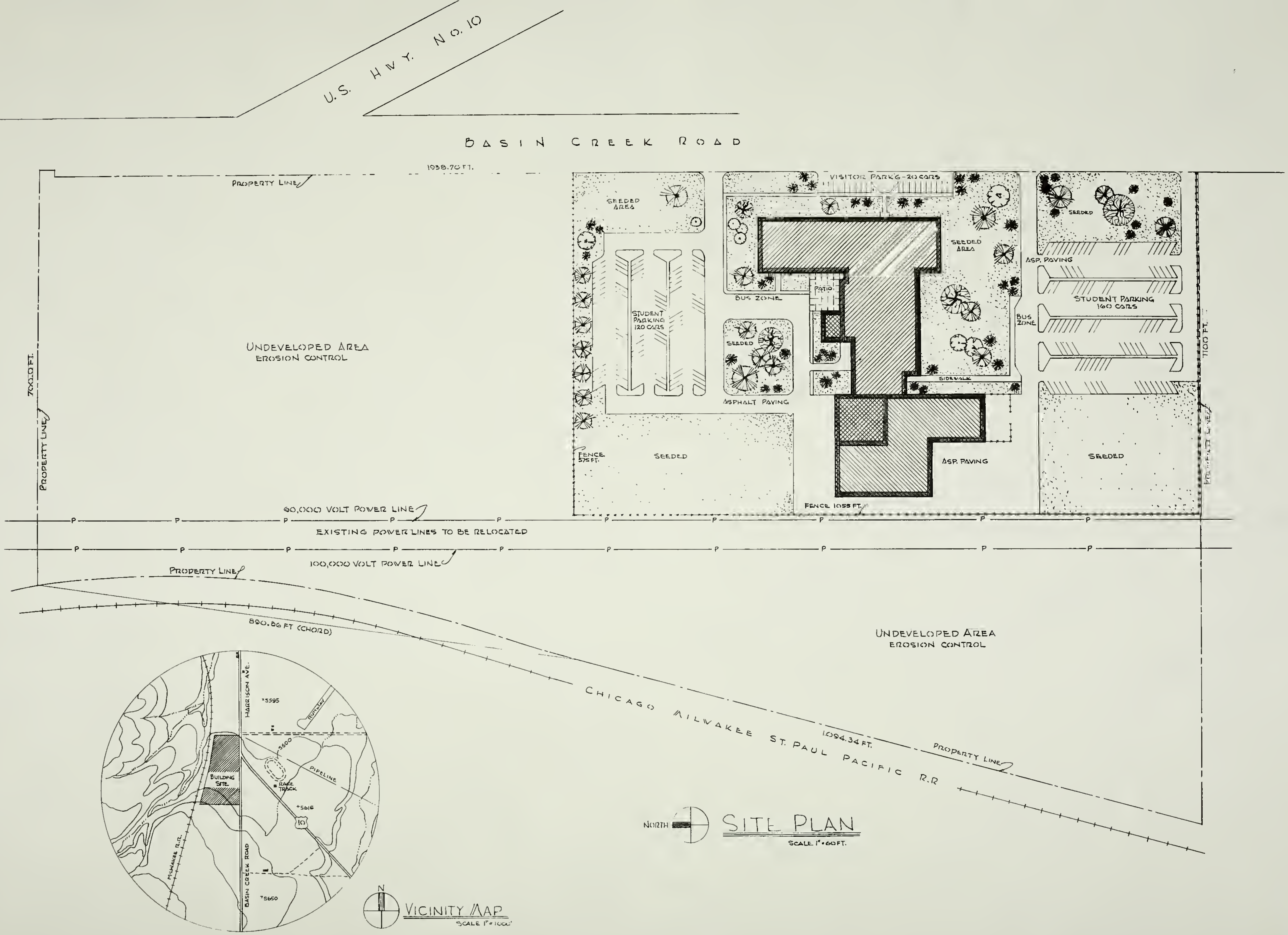
Exterior:	Brick masonry and exposed concrete, metal windows and doors, built-up roofing and metal flashing.
Foundation:	Reinforced concrete footings and walls.
Structural Frame:	Reinforced concrete beams, columns and slabs. Steel roof trusses.
Interior:	Walls and Wall Finish shall be exposed brick, concrete block, exposed concrete, wood paneling, and vinyl fab. Partitions shall be steel studs with gypsum board, concrete block. Floor covering shall be exposed conrete, ceramic and quarry tile, vinyl-asbestos tile and some carpeting. Ceilings shall be exposed concrete, exposed steel trusses, and suspended acoustical tile. All millwork and cabnetry shall be hardwood plywood veneer, with plastic laminate tops.
Electrical:	Lighting shall be fluorescent and incadescent, recessed and surface mounted, exterior and interior. Power shall be three phase, 4 wire, 277/480 volt. Miscellaneous: Television and computer outlets, fire alarm, intercom, public address and program systems.
Heating, Ventilation:	The heating and general ventilation system shall be high velocity air with double ducts and mixing boxes controlled by thermostats then delivered through ceiling and side wall diffusers.

The building is not air conditioned, however, the entire building may be cooled dependent upon the outside air temperature. In some laboratories and instrumentation rooms where a constant temperature must be maintained, chiller coils will be installed in the ductwork.

Exhaust fans will be used in area's such as welding to exhaust toxic fumes.

Plumbing: Standard lavatory and water closet fixtures along with specialized sinks and trim as required.

A central compresser, located in the shop area, will pipe compressed air to all required labs.



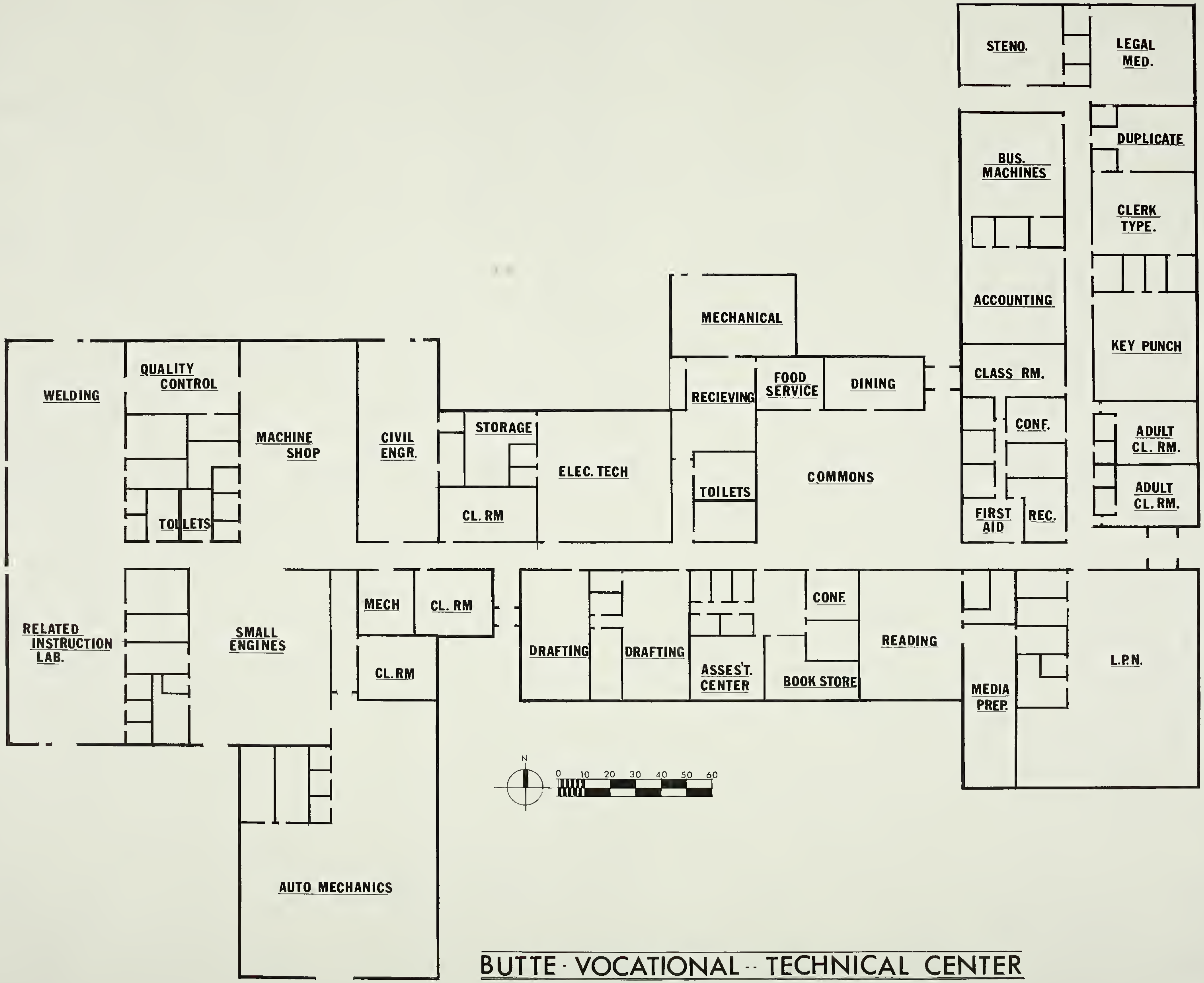
SITE PLAN

SCALE 1" = 60 FT.

VICINITY MAP

SCALE 1" = 1000'

PRELIMINARIES



BUTTE · VOCATIONAL -- TECHNICAL CENTER

PRELIMINARIES
W H HINICK ASSOCIATES
architecture engineering planning

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE SECRETARIAL

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
5,050 sq.ft.	9'	Normal	H/C water. Drains	110v, 100a grid system, floor and/or ceiling. Separate internal phone system.	PA CCTV	Air-cond.	Carpet

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE KEY PUNCH

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
1,775 sq.ft.	9'	Normal	H/C water Drain	110v, 100a	PA CCTV	Air-cond.	Carpet

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE ACCOUNTING

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
1,650 sq.ft.	9'	Normal	Normal	110v, 100a wall outlets as required	PA CCTV	air-cond.	Carpet

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE OFFICE MACHINES

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
1,775 sq.ft.	9'	Normal	H/C water, drains.	110v, 100a	PA CCTV	air-cond.	Carpet

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE L P N

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
5,200 sq.ft.	9'	Normal	H/C water. 100 psi air, hospital type fixtures, hand sink. Washer/dryer service area.	110v, wall outlets, 42" high.	PA CCTV	Air-cond.	Carpet

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE ELECTRICAL TECH.

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
3,200 sq.ft.	9'	Double door	100 psi air outlets	110v, 300a 220v, 1ø, 100a 220v, 3ø, 100a 110v wall outlets. 8' oc at 42" high. 440v system. Keyed master control panic cut-off.	PA CCTV	Air-cond.	

1. Customer Service area for Television repair laboratory.

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE CIVIL ENGINEERING TECH.

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
2,200 sq.ft.	12'	10' wide O.H. door	H/C water, Outside cold water, air-100 psi, 6 outlets. Floor drain.	220v, 1ø,60a 220v, 3ø, 60a 110v, 1ø, 200a Overhead reels Minimum 6. Panic cut-off. Keyed master control wall outlets. 42" high.	PA CCTV	Air-cond.	Outside secured court required. Non-skid for test area.

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE DRAFTING

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
1,600 sq.ft.	9'	40" door	H/C water. Print room ventilation as required	110v, wall outlets Low amp required	PA CCTV	Air-cond.	

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE RELATED DRAFTING

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
1,300 sq.ft.	9'	40" door	H/C water. Print room ventilation as required.	110v, wall outlets Low Amp required.	PA CCTV	Air-cond.	

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE WELDING

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
4,250 sq.ft.	16'	10' wide O.H. door	H/C water. Floor drains. 100 psi air wall outlets. Overhead air reels. Manifold system from cylinder storage	110v, 350a 220v,3ø,450a 220v,1ø,2000a Panic switches. 110v overhead reel. 110v wall outlets. Keyed master control. Overhead cable trays.	High noise level PA CCTV	Venitlation required at each arc and gas welding station. See note #2.	Protected cylinder storage. Non-skid floor.

NOTES:
1. Manifold system to include separate 1-1/4" and 1" lines for oxygen and acetylene

2.a. Each student welding station will required approximately 1200 CFM.
20 stations x 1200 = 24,000 CFM

2.b. Two hand grinding stations will required approximately 800 each or 1600 CFM

2.c. General ventilation of area also required as well as some additional equipment. The above is for planning only.

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE QUALITY CONTROL & TESTING

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
1,400 sq.ft.	12'	Double door H.E.W. interlock X-ray door.	H/C water. Floor drain. 100 psi air. Air wall outlets.	110v, 60a Electrical wall outlets, 220v,1ø,60a 220v,3ø,30a	PA CCTV	Air-cond.	Shielded X-Ray room

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE MACHINE SHOP

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
4,000 aq.ft.	12'	10' wide O.H. door	H/C water. Floor drains. 100 psi air. Gas 2" line. Overhead air reels. Wall air outlets. In floor 100 gallon waste oil storage.	220v, 1ø,100a 110v, 1ø, 200a 220v, 3ø, 400a Panic switches. Overhead electric reels. Keyed master control. Wall outlets 42" high	PA CCTV	Ventilation over heat-treat area.	Non-skid floor

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE AUTO MECHANICS

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
7,000 sq.ft.	16"	12' wide x 14' high O.H. doors	H/C water floor drains, 100 psi, 60 outlets. 180 psi air for hoists.	110v, 400a 220v,1ø, 60a 220v, 3ø, 100a Minimum 30 110v wall and overhead reel outlets. Panic cut-off keyed master control	PA CCTV High noise levels.	Monoxide exhaust system servicing 15 bays.	Secured outside vehicle storage area. 500 gallon underground waste oitl storage tan w/inside input and outside out-take. Non-skid floor.

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE SMALL ENGINE REPAIR

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
4,350 sq.ft.	16'	10' wide O.H. door. Double door from lab to test room	100 psi air. H/C water. Floor drains. Air outlets Venting from outboard test tank to outside and dynomometer. Monoxide exhaust from engine area	220v,3ø,60a 110v,200a 220v,1ø,60a Outlets 12' o.c. Panic switches. Wall outlets 42" high. Keyed master control.	PA CCTV High noise level	High air change. Entire room must have positive monoxide exhaust	Flex portable exhaust system. Flex pick up in running area Monorail track running from lab into test room. Non-skid floor.

FACILITY DESIGN REQUIREMENTS

INSTRUCTIONAL SPACE RELATED INSTRUCTION LAB

AREA	HEIGHT	OPENINGS	MECHANICALS	ELECTRICAL	SOUND	CLIMATE	OTHER
4,250 sq.ft.	16'	10' wide O.H. door	H/C water. Floor drains. 100 psi air wall outlets. Overhead air reels. Manifold system. See welding notes.	110v,200a 220v,3ø,500a 220v,1ø,1750a Panic switches. 110v overhead reels. 110v wall outlets. Keyed master control overhead cable trays.	High noise level PA CCTV	Ventialtion required at each arc and gas welding station. See welding notes.	Protected cylinder storage to be shared with welding.

NOTE: Manifold system to include separate 1-1/4" and 1" lines for oxygen and acetylene.

X COST ANALYSIS

COST ESTIMATE

Land		None
Administrative & Legal		5,000
Construction Cost		
Building:		
General Construction	2,901,696	
Mechanical Construction	1,088,136	
Electrical Construction	544,068	
		4,533,900
Site Development & Landscaping		401,600
Construction Contingency (2%)		98,710
		5,034,210
Professional Fees		
Site Survey		3,500
Soil Testing		3,000
Educational Consultants		4,780
Architects/Engineers Fee		327,223
		338,503
*Estimated Total Project Cost		5,377,713

*Total Project Cost Does Not Include Furnishing or Equipment

XI[illegible]. APPENDIX

EQUIPMENT BUDGET

1.	Accounting	$ 18,250.00
2.	Office Machines	18,250.00
3.	Key Punch	56,200.00
4.	Secretarial	155,750.00
5.	Auto Mechanics	75,675.00
6.	Drafting	30,450.00
7.	Related Drafting	24,000.00
8.	Civil Engineer Tech.	46,800.00
9.	Electrical Tech.	96,250.00
10.	Machine Shop	300,000.00
11.	Small Engine Repair	62,000.00
12.	Welding	78,400.00
13.	Related Instr. Lab	58,000.00
14.	Qual. Con't. & Testing	41,790.00
15.	L. P. N.	44,750.00
16.	Adult Basic Ed.	12,600.00
17.	Furniture	300,000.00
	TOTAL:	$1,419,165.00

*Funding Source - 47th Legislative Session, 1981

STUDENTS BY COUNTIES

Counties	Fiscal Year 74	Fiscal Year 75	Fiscal Year 76	Fiscal Year 77	Fiscal Year 78
Beaverhead	3	3	11	6	2
Big Horn	1	1			
Blaine	1			1	
Carbon				1	
Cascade	6	3	1		1
Choteau			1	1	3
Dawson		1			1
Deer Lodge	38	35	37	60	56
Fergus			1		
Flathead	1		1	2	4
Gallatin	2		2	3	5
Granite			1		2
Hill	2				
Jefferson	6	10	9	14	20
Lake	1	1	2	1	1
Lewis and Claek		1	2	2	1
Liberty	1				
Lincoln	2	2	2	1	
Madison	2	6	6	6	6
Mineral		1			
Missoula	2	2	4	3	
Park					1
Powder River				1	1
Powell	4	16	6	11	9
Ravalli		3			1
Roosevelt	1	1			2
Rosebud	1				
Sanders			2	1	
Sheridan				1	
Silver Bow	381	294	369	386	395
Sweet Grass	2				
Teton	1				
Treasure		2			
Valley		1			1
Yellowstone		4			
Total	458	387	457	501	512
Unknown County	65	147	87	56	18
Total Accumulative	523	534	544	557	530
Total Counties	20	19	17	17	20